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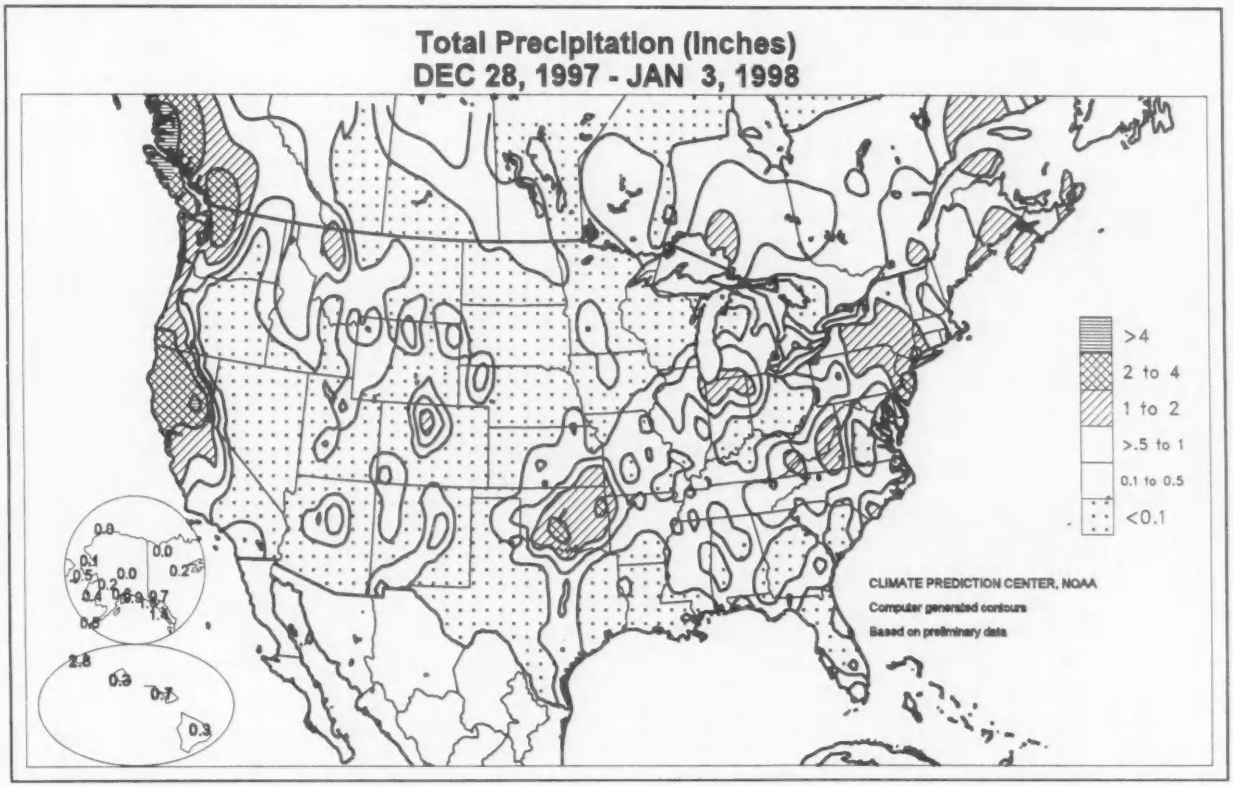
WEEKLY WEATHER AND CROP BULLETIN

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Weather Service

U.S. DEPARTMENT OF AGRICULTURE
National Agricultural Statistics Service
and World Agricultural Outlook Board



HIGHLIGHTS

December 28, 1997 - January 3, 1998

Fairly tranquil weather prevailed except in the **East**, where an early- to midweek storm brought rain, snow, and wind. Despite a late-week Arctic intrusion into the **North Central States**, weekly temperatures averaged 6 to 16°F above normal. In advance of the cold front, more than 50 daily-record highs were set during the first 3 days of 1998 from the **northern Plains** into the **Northeast**. In contrast, temperatures averaged as much as 6°F below normal in the **Southeast**, where cold air lingered in the storm's wake. Storminess arrived along the **West Coast** toward week's end, delivering more than 2 inches of rain to coastal areas from **Washington** to **central California**, and more than 4 inches of precipitation in parts of the **northern Sierra Nevada** and **Washington Cascades**.

(Continued on back cover)

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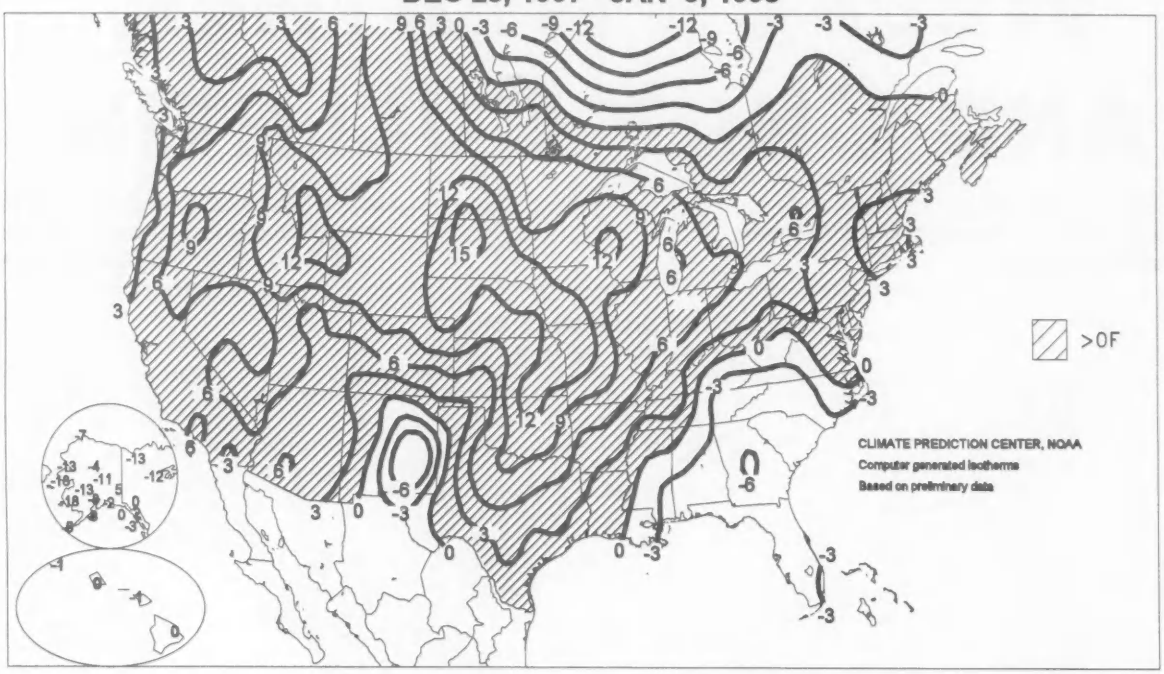
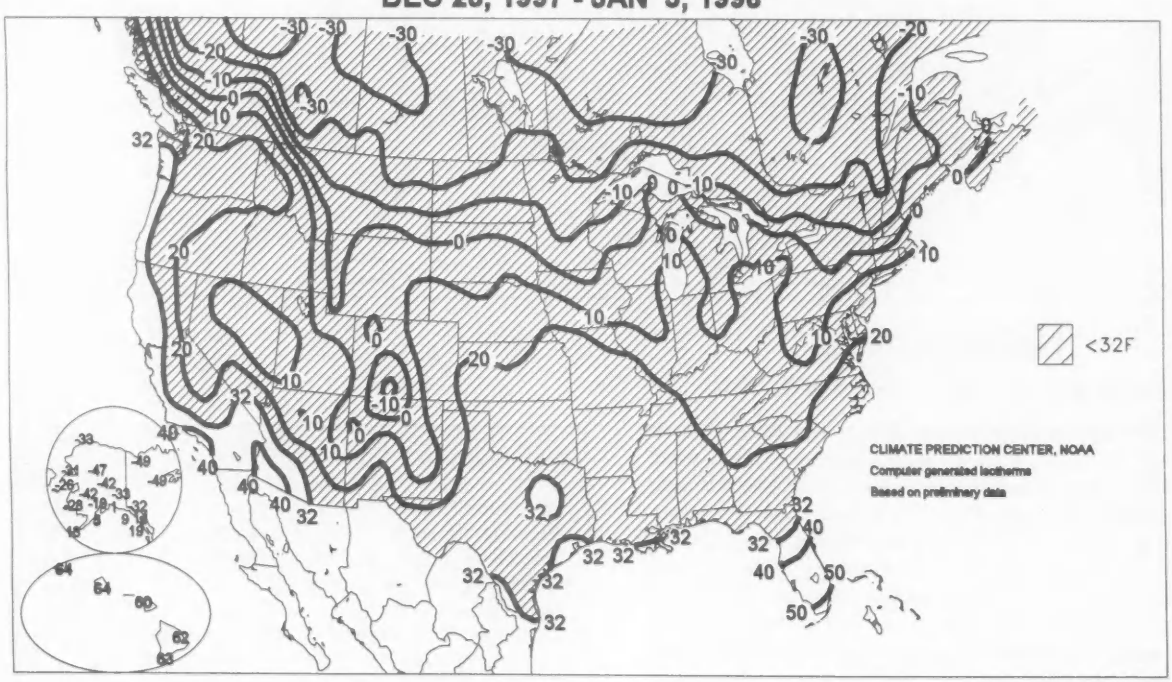
Departure of Average Temperature from Normal (°F)
DEC 28, 1997 - JAN 3, 1998



Extreme Minimum Temperature (°F)
DEC 28, 1997 - JAN 3, 1998



National Weather Data for Selected Cities

Weather Data for the Week Ending January 3, 1998

Data Provided by Climate Prediction Center (301-763-8000 EXT. 7511)

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																	TEMP, °F		PRECIP.	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL, IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
AL	BIRMINGHAM	51	28	69	20	39	-3	0.48	-0.71	0.30	4.10	73	0.00	0	87	41	0	5	2	0
	HUNTSVILLE	48	28	67	21	38	-2	0.23	-1.06	0.13	3.29	51	0.00	0	91	52	0	6	4	0
	MOBILE	56	34	71	28	45	-5	0.08	-1.07	0.08	4.37	78	0.00	0	87	50	0	2	1	0
	MONTGOMERY	53	30	71	23	42	-5	0.34	-0.78	0.19	4.51	80	0.00	0	88	42	0	5	2	0
AK	ANCHORAGE	14	1	26	-10	7	-8	0.55	0.33	0.34	1.79	152	0.15	167	86	69	0	7	4	0
	BARROW	-16	-24	-9	-33	-20	-7	0.00	-0.03	0.00	0.07	54	0.00	0	76	71	0	7	0	0
	FAIRBANKS	-12	-28	-4	-42	-20	-11	0.00	-0.16	0.00	2.06	230	0.00	0	80	74	0	7	0	0
	JUNEAU	29	24	41	14	27	2	–	–	–	–	–	–	–	95	88	0	5	-	-
	KODIAK	28	16	36	5	22	-9	–	–	–	–	–	–	–	70	49	0	7	-	-
	NOME	-2	-20	11	-26	-11	-18	0.47	0.28	0.47	0.96	102	0.00	0	79	66	0	7	1	0
AZ	FLAGSTAFF	45	21	53	10	33	4	0.34	-0.17	0.34	2.19	84	0.34	162	82	41	0	6	1	0
	PHOENIX	69	47	74	36	58	6	0.00	-0.20	0.00	0.83	78	0.00	0	67	28	0	0	0	0
	PRESCOTT	52	28	61	14	40	5	0.14	-0.22	0.14	2.60	149	0.14	93	75	38	0	5	1	0
	TUCSON	69	41	80	30	55	4	0.00	-0.24	0.00	2.88	248	0.00	0	68	23	0	2	0	0
	YUMA	70	48	76	42	59	4	0.00	-0.10	0.00	2.79	558	0.00	0	69	33	0	0	0	0
AR	FORT SMITH	54	34	66	24	44	7	0.07	-0.46	0.06	4.62	140	0.02	10	90	51	0	5	2	0
	LITTLE ROCK	55	35	63	27	45	5	0.10	-0.83	0.10	3.75	74	0.00	0	86	50	0	4	1	0
CA	BAKERSFIELD	63	40	71	30	52	5	0.17	0.01	0.16	1.28	186	0.17	243	91	49	0	1	2	0
	EUREKA	–	–	–	–	–	–	2.52	–	–	7.25	–	2.52	–	–	–	–	–	–	-
	FRESNO	61	38	69	29	50	5	0.15	-0.23	0.12	1.09	69	0.15	83	94	48	0	2	2	0
	LOS ANGELES	71	52	78	44	62	5	0.31	-0.13	0.31	4.70	254	0.31	155	81	41	0	0	1	0
	REDDING	59	40	73	33	50	6	1.16	-0.18	0.58	4.44	73	1.16	193	85	61	0	0	3	1
	SACRAM/MCCLELL	58	42	59	36	49	–	0.68	-9.99	0.48	3.13	–	0.68	-999	98	72	0	0	2	0
	SAN DIEGO	70	52	77	46	61	4	0.32	-0.07	0.24	1.67	94	0.32	178	82	46	0	0	2	0
	SAN FRANCISCO	58	46	60	39	52	4	1.23	0.37	0.87	6.49	186	1.23	307	94	66	0	0	3	1
CO	ALAMOSA	30	-1	40	-8	15	1	0.00	-0.08	0.00	0.19	39	0.00	0	86	64	0	7	0	0
	CO SPRINGS	51	23	60	10	37	9	0.00	-0.08	0.00	0.10	20	0.00	0	67	23	0	7	0	0
	DENVER	48	27	59	15	37	8	0.00	-0.13	0.00	0.59	84	0.00	0	71	42	0	5	0	0
	GRAND JUNCTION	42	16	50	4	29	4	0.00	-0.14	0.00	0.14	21	0.00	0	86	45	0	7	0	0
	PUEBLO	52	18	65	11	35	6	0.06	-0.02	0.06	0.44	98	0.06	160	81	34	0	7	1	0
CT	BRIDGEPORT	41	25	52	12	33	3	0.92	0.16	0.90	3.35	87	0.00	0	75	49	0	5	3	1
	HARTFORD	39	20	58	6	29	4	0.62	-0.21	0.51	2.18	51	0.00	0	76	50	0	6	2	1
DC	WASHINGTON	46	30	63	18	38	2	0.24	-0.43	0.18	1.74	51	0.00	0	73	39	0	4	2	0
DE	WILMINGTON	43	28	56	16	34	2	0.30	-0.45	0.27	2.57	67	0.00	0	78	46	0	6	2	0
FL	DAYTONA BEACH	62	44	76	36	53	-5	0.02	-0.57	0.02	7.78	276	0.00	0	93	51	0	0	1	0
	JACKSONVILLE	59	37	71	27	48	-5	0.04	-0.64	0.03	9.74	324	0.01	3	89	51	0	1	2	0
	KEY WEST	71	60	77	54	66	-5	0.12	-0.32	0.12	4.42	199	0.00	0	82	59	0	0	1	0
	MIAMI	70	57	78	49	64	-4	0.42	-0.01	0.40	5.29	259	0.02	11	81	58	0	0	2	0
	ORLANDO	64	46	77	40	55	-5	0.05	-0.43	0.03	12.83	535	0.00	0	90	50	0	0	2	0
	TAMPA	66	46	78	40	56	-5	0.18	-0.27	0.09	15.57	666	0.00	0	88	48	0	0	2	0
	VALPARAISO/EGLIN	58	35	72	28	46	-6	0.96	-0.02	0.49	4.27	92	0.00	0	94	44	0	2	2	0
	WEST PALM BEACH	70	55	78	47	63	-3	0.02	-0.53	0.02	5.03	184	0.00	0	79	57	0	0	1	0
GA	ATHENS	48	27	65	19	37	-5	0.08	-0.94	0.06	5.91	130	0.00	0	88	50	0	7	1	0
	ATLANTA	47	28	64	20	38	-4	0.09	-0.94	0.05	5.06	106	0.00	0	82	46	0	6	3	0
	AUGUSTA	53	27	70	19	40	-5	0.13	-0.73	0.13	6.94	184	0.00	0	88	44	0	6	1	0
	COLUMBUS	53	31	70	24	42	-4	0.16	-0.95	0.11	6.72	124	0.00	0	87	48	0	5	2	0
	MACON	52	28	70	21	40	-6	0.07	-0.97	0.04	7.29	154	0.00	0	90	46	0	6	2	0
	SAVANNAH	55	34	71	25	44	-5	0.23	-0.54	0.12	3.99	121	0.00	0	85	43	0	4	2	0
HI	HILO	79	64	84	62	72	0	0.36	-2.04	0.20	8.92	69	0.07	7	93	65	0	0	5	0
	HONOLULU	80	66	83	64	73	0	0.31	-0.57	0.20	0.67	16	0.23	46	89	60	0	0	5	0
	KAHULUI	80	63	86	60	72	0	0.67	-0.20	0.55	1.51	41	0.02	5	92	64	0	0	3	1
	LIHUE	78	66	79	64	71	-1	2.79	1.50	2.00	5.25	91	2.66	451	89	66	0	0	6	2
ID	BOISE	47	28	52	21	37	9	0.15	-0.16	0.15	0.80	54	0.15	107	91	57	0	6	1	0
	LEWISTON	43	33	53	30	38	5	0.20	-0.09	0.12	0.68	50	0.08	62	91	67	0	3	3	0
	POCATELLO	42	27	48	14	35	12	0.07	-0.18	0.07	0.73	61	0.07	64	89	63	0	4	1	0
IL	CHICAGO/O'HARE	38	23	58	13	30	8	0.61	0.16	0.46	1.98	74	0.46	242	85	66	0	5	2	0
	MOLINE	38	21	62	7	30	9	0.74	0.31	0.43	2.39	99	0.62	344	91	72	0	5	3	0
	PEORIA	38	24	61	11	31	9	0.14	-0.31	0.08	1.99	76	0.06	28	88	70	0	5	3	0
	ROCKFORD	36	18	57	6	27	7	0.26	-0.11	0.24	1.07	49	0.24	160	89	73	0	5	2	0
	SPRINGFIELD	40	27	62	11	34	8	0.11	-0.39	0.08	1.75	60	0.00	0	87	70	0	5	2	0
IN	EVANSVILLE	42	28	60	8	34	2	0.14	-0.57	0.11	2.37	60	0.03	10	86	56	0	5	2	0
	FORT WAYNE	38	23	55	5	31	6	0.81	0.26	0.75	2.51	81	0.78	355	87	61	0	5	4	1
	INDIANAPOLIS	40	25	57	13	33	6	0.06	-0.59	0.04	1.37	38	0.04	15	86	52	0	5	2	0
	SOUTH BEND	38	25	55	8	32	7	0.79	0.15	0.33	2.66	74	0.55	212	89	67	0	5	4	0
IA	BURLINGTON	–	–	62	–	–	–	0.41	0.05	–	1.74	82	0.22	147	–	–	-	-	-	-
	CEDAR RAPIDS	–	–	52	–	–	–	0.09	-0.19	–	1.17	68	0.01	8	–	–	-	-	-	-
	DES MOINES	41	24	56	11	33	13	0.07	-0.18	0.07	1.38	96	0.00	0	87	71	0	5	1	0
	DUBUQUE	36	17	52	4	26	9	0.04	-0.31	0.04	1.11	53	0.04	27	89	73	0	6	1	0
	SIOUX CITY	42	21	53	13	31	13	0.04	-0.11	0.04	0.21	25	0.00	0	88	62	0	7	1	0
	WATERLOO	35	18	50	0	27	11	0.08	-0.17	0.08	0.66	46	0.00	0	88	71	0	7	1	0
KS	CONCORDIA	48	27	57	19	38	10	0.01	-0.15	0.01	1.75	192	0.00	0	86	63	0	5	1	0
	DODGE CITY	38	26	41	22	32	2	0.03	-0.10	0.03	2.59	370	0.00	0	86	68	0	7	1	0
	GOODLAND	46	29	60	20	37	9	0.02	-0.06	0.02	0.54	123	0.00	0	84	54	0	6	1	0
	TOPEKA	51	31	64	24	41	14	0.01	-0.25	0.01	2.41	158	0.00	0	83	60	0	4	1	0

Based on 1961-90 normals

Weather Data for the Week Ending January 3, 1998

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																	TEMP, °F		PRECIP.	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL IN., SINCE Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
	WICHITA	52	31	66	24	42	12	0.04	-0.18	0.04	2.65	205	0.00	0	87	56	0	5	1	0
KY	JACKSON	39	28	58	15	33	-1	0.25	-0.68	0.11	2.21	46	0.00	0	80	58	0	5	3	0
	LEXINGTON	40	26	61	13	33	1	0.17	-0.62	0.15	2.68	62	0.00	0	84	56	0	5	2	0
	LOUISVILLE	42	29	62	15	36	2	0.15	-0.58	0.09	2.53	64	0.02	7	86	59	0	5	3	0
	PADUCAH	46	32	62	22	39	5	0.08	-0.82	0.06	2.48	49	0.02	6	84	56	0	5	2	0
LA	BATON ROUGE	62	37	73	28	50	-1	0.01	-1.19	0.01	6.32	105	0.00	0	89	47	0	2	1	0
	LAKE CHARLES	64	40	75	30	52	1	0.00	-1.12	0.00	5.72	104	0.00	0	90	47	0	2	0	0
	NEW ORLEANS	62	42	74	31	52	0	0.01	-1.22	0.01	2.56	41	0.01	2	82	48	0	1	1	0
	SHREVEPORT	60	39	67	28	49	4	0.01	-0.87	0.01	6.10	136	0.00	0	79	41	0	3	1	0
ME	CARIBOU	23	1	42	-17	12	2	0.67	0.02	0.62	2.83	81	0.02	7	88	69	0	7	3	1
	PORTLAND	38	17	54	1	27	5	1.10	0.19	0.78	2.57	52	0.00	0	73	50	0	6	2	1
MD	BALTIMORE	44	26	62	17	35	2	0.26	-0.47	0.25	2.05	55	0.00	0	72	43	0	5	2	0
MA	BOSTON	42	24	60	7	33	3	0.72	-0.13	0.59	2.32	53	0.00	0	77	42	0	5	3	1
	WORCESTER	36	19	53	0	27	3	0.62	-0.25	0.43	2.32	52	0.00	0	85	53	0	6	2	0
MI	ALPENA	34	17	52	4	26	6	0.20	-0.22	0.08	0.78	35	0.05	28	88	68	0	7	5	0
	GRAND RAPIDS	37	22	54	11	30	6	0.51	-0.02	0.49	1.47	48	0.49	223	87	68	0	5	2	0
	HOUGHTON LAKE	33	15	47	0	24	5	0.12	-0.27	0.07	0.41	19	0.07	41	87	70	0	7	3	0
	LANSING	37	22	52	9	29	7	0.32	-0.11	0.29	1.18	47	0.29	181	84	59	0	5	2	0
	MARQUETTE	--	--	--	--	--	--	0.58	0.02	--	2.47	87	0.07	29	--	--	-	-	-	-
	MUSKEGON	36	25	47	16	30	5	0.36	-0.27	0.21	1.30	39	0.08	30	91	74	0	6	5	0
MN	DULUTH	26	5	37	-15	15	7	0.08	-0.21	0.08	0.40	29	0.00	0	93	84	0	7	1	0
	INT'L FALLS	21	-2	34	-24	9	8	0.04	-0.16	0.02	0.25	27	0.02	22	89	69	0	7	2	0
	MINNEAPOLIS	32	15	45	-5	23	10	0.05	-0.17	0.03	0.31	26	0.00	0	90	64	0	7	2	0
	ROCHESTER	32	16	45	-2	24	12	0.00	-0.19	0.00	0.36	34	0.00	0	91	74	0	7	0	0
	ST. CLOUD	29	8	40	-13	18	9	0.13	-0.05	0.09	0.23	25	0.00	0	93	67	0	7	3	0
MS	JACKSON	58	32	71	22	44	-1	0.26	-1.04	0.19	5.77	89	0.00	0	88	48	0	4	2	0
	MERIDIAN	55	28	71	22	41	-4	0.16	-1.15	0.12	4.71	71	0.00	0	91	42	0	5	2	0
	TUPELO	49	31	67	23	40	-1	0.22	-1.08	0.13	3.71	55	0.00	0	86	54	0	5	2	0
MO	COLUMBIA	46	33	63	26	39	11	0.10	-0.33	0.04	1.79	68	0.01	6	84	62	0	5	4	0
	KANSAS CITY	49	32	63	25	40	14	0.06	-0.25	0.04	2.37	139	0.04	31	80	65	0	5	2	0
	SAINT LOUIS	45	32	63	24	39	8	0.16	-0.36	0.12	1.86	57	0.00	0	87	58	0	5	2	0
	SPRINGFIELD	48	34	66	24	41	9	0.17	-0.36	0.15	3.16	93	0.00	0	90	57	0	5	2	0
MT	BILLINGS	44	24	60	0	34	11	0.09	-0.11	0.09	0.57	66	0.00	0	72	45	0	4	1	0
	BUTTE	43	21	49	14	32	16	0.04	-0.08	0.04	0.19	36	0.04	67	86	48	0	7	1	0
	GLASGOW	32	9	42	-22	20	9	0.11	0.03	0.11	0.12	27	0.11	183	85	59	0	7	1	0
	GREAT FALLS	40	16	57	-16	28	7	0.07	-0.15	0.07	0.40	43	0.07	78	85	43	0	5	1	0
	KALISPELL	40	23	50	13	31	11	0.34	-0.05	0.19	0.70	37	0.13	76	94	62	0	6	4	0
	MILES CITY	41	18	56	-6	30	14	0.04	-0.10	0.04	0.06	9	0.04	67	78	47	0	7	1	0
	MISSOULA	41	24	51	19	33	11	0.20	-0.09	0.12	0.52	41	0.19	146	92	67	0	6	4	0
NE	GRAND ISLAND	44	23	59	13	34	12	0.00	-0.13	0.00	0.41	54	0.00	0	86	56	0	6	0	0
	LINCOLN	43	24	58	18	34	12	0.00	-0.16	0.00	0.73	78	0.00	0	89	63	0	7	0	0
	NORFOLK	43	22	57	13	33	13	0.00	-0.14	0.00	0.37	46	0.00	0	88	57	0	7	0	0
	NORTH PLATTE	47	18	62	12	33	11	0.00	-0.08	0.00	0.20	40	0.00	0	88	42	0	7	0	0
	OMAHA	43	25	57	18	34	12	0.00	-0.19	0.00	0.49	44	0.00	0	88	64	0	7	0	0
	SCOTTSBLUFF	50	23	67	15	37	12	0.02	-0.09	0.02	0.31	50	0.00	0	79	35	0	7	1	0
	VALENTINE	46	20	68	6	33	13	0.02	-0.05	0.02	0.03	7	0.00	0	81	48	0	7	1	0
NV	ELY	42	15	47	0	29	5	0.00	-0.17	0.00	0.23	29	0.00	0	83	49	0	7	0	0
	LAS VEGAS	62	41	68	36	52	8	0.00	-0.09	0.00	0.07	17	0.00	0	49	26	0	0	0	0
	RENO	50	26	63	17	38	6	0.20	-0.03	0.20	0.78	72	0.20	182	86	37	0	5	1	0
	WINNEMUCCA	50	19	55	8	34	6	0.01	-0.18	0.01	0.26	27	0.01	13	88	46	0	6	1	0
NH	CONCORD	37	12	54	-4	24	4	0.20	-0.43	0.12	1.95	57	0.00	0	75	48	0	7	2	0
NJ	NEWARK	42	27	62	14	35	2	1.58	0.81	1.54	4.16	110	0.00	0	71	47	0	5	2	1
NM	ALBUQUERQUE	45	23	53	18	34	1	0.00	-0.11	0.00	1.00	185	0.00	0	78	42	0	6	0	0
NY	ALBANY	35	17	53	-7	26	4	0.49	-0.10	0.28	1.52	48	0.04	16	83	58	0	6	3	0
	BINGHAMTON	32	17	48	-2	24	2	1.04	0.43	0.54	<.82	87	0.01	4	84	62	0	6	3	1
	BUFFALO	36	23	50	9	30	4	0.62	-0.11	0.35	3.21	81	0.25	83	83	60	0	5	4	0
	ROCHESTER	37	23	52	7	30	5	1.08	0.54	0.82	3.08	104	0.20	91	84	60	0	5	4	1
	SYRACUSE	36	19	49	-9	27	3	1.31	0.69	0.82	4.20	121	0.08	31	83	63	0	5	6	1
NC	ASHEVILLE	42	20	59	11	31	-6	0.10	-0.68	0.05	2.98	78	0.00	0	89	51	0	7	3	0
	CHARLOTTE	47	28	65	20	37	-2	0.31	-0.51	0.30	4.08	107	0.00	0	84	42	0	7	2	0
	GREENSBORO	42	24	60	13	33	-4	0.31	-0.45	0.31	2.17	59	0.00	0	87	46	0	7	1	0
	HATTERAS	48	37	53	29	41	-5	0.81	-0.31	0.81	5.85	112	0.00	0	79	55	0	2	1	1
	RALEIGH	48	28	65	18	38	-2	0.15	-0.61	0.15	2.75	77	0.00	0	88	45	0	6	1	0
	WILMINGTON	52	30	67	23	41	-5	0.46	-0.40	0.46	4.84	121	0.00	0	88	45	0	5	1	0
ND	BISMARCK	36	14	56	-7	25	15	0.00	-0.11	0.00	0.08	15	0.00	0	87	60	0	7	0	0
	DICKINSON	37	13	54	-10	25	11	0.00	-0.08	0.00	0.03	7	0.00	0	83	53	0	7	0	0
	FARGO	25	6	36	-13	15	8	0.05	-0.12	0.04	0.44	62	0.00	0	91	74	0	7	2	0
	GRAND FORKS	19	2	28	-17	11	5	0.37	0.20	0.37	0.56	79	0.00	0	91	78	0	7	1	0
	JAMESTOWN	30	10	43	-7	20	12	0.09	-0.04	0.04	0.30	55	0.02	33	90	74	0	7	3	0
	WILLISTON	32	7	48	-30	19	10	0.08	-0.06	0.06	0.07	11	0.05	83	86	63	0	7	2	0
OH	AKRON-CANTON	36	22	53	7	29	2	0.07	-0.51	0.03	2.09	66	0.02	8	86	54	0	6	3	0
	CINCINNATI	40	24	58	9	32	3	0.29	-0.36	0.13	2.81	82	0.04	15	87	57	0	5	4	0
	CLEVELAND	39	25	57	12	32	5	0.20	-0.38	0.13	2.47	74	0.06	22	80	51	0	5	4	0
	COLUMBUS	38	27	56	14	32	4	0.21	-0.35	0.14	2.20	71	0.07	29	84	56	0	6	3	0
	DAYTON	38	24	56	9	31	3	0.07	-0.50	0.02	2.20	69	0.06	21	85	60	0	5	4	0
	MANSFIELD	36	23	54	8	29	3	0.08	-0.50	0.04	2.33	71	0.02	9	83	57	0	5	2	0

Based on 1961-90 normals

Weather Data for the Week Ending January 3, 1998

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																	TEMP. °F		PRECIP.	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL, IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
	TOLEDO	37	24	55	11	31	7	0.21	-0.33	0.18	2.25	71	0.18	86	87	59	0	5	2	0
	YOUNGSTOWN	36	23	54	8	29	4	0.35	-0.22	0.20	2.72	86	0.02	8	80	58	0	5	4	0
OK	OKLAHOMA CITY	58	35	72	23	47	10	0.25	-0.02	0.25	2.26	149	0.25	208	79	48	0	4	1	0
	TULSA	56	37	70	26	48	11	0.06	-0.33	0.06	4.30	185	0.00	0	79	46	0	3	1	0
OR	ASTORIA	49	38	54	31	44	2	3.69	1.32	1.56	10.29	89	1.84	179	98	83	0	1	7	2
	BURNS	42	21	45	15	31	8	0.11	-0.14	0.07	1.00	79	0.10	83	96	71	0	7	4	0
	EUGENE	48	36	54	31	42	2	0.86	-1.05	0.45	3.08	33	0.85	102	89	74	0	3	3	0
	MEDFORD	44	30	49	26	37	0	0.78	0.08	0.31	2.14	59	0.78	260	100	78	0	6	3	0
	PENDLETON	48	32	57	23	40	7	0.10	-0.26	0.04	1.14	64	0.09	60	91	62	0	3	4	0
	PORTLAND	48	38	56	34	43	4	0.59	-0.76	0.32	3.61	54	0.58	102	96	75	0	0	4	0
	SALEM	47	37	52	30	42	3	0.54	-0.94	0.29	3.70	50	0.53	84	95	79	0	1	3	0
PA	ALLENTOWN	37	22	54	11	30	2	0.72	-0.02	0.55	2.37	62	0.00	0	82	56	0	6	2	1
	ERIE	38	27	55	16	33	5	0.48	-0.17	0.39	5.31	138	0.46	177	80	60	0	5	4	0
	MIDDLETOWN	39	23	53	13	31	1	0.40	-0.28	0.25	2.01	57	0.00	0	78	49	0	6	2	0
	PHILADELPHIA	43	27	56	16	35	3	0.79	0.03	0.78	3.09	83	0.00	0	73	43	0	5	2	1
	PITTSBURGH	37	23	56	6	30	3	0.19	-0.44	0.11	1.31	41	0.02	8	80	51	0	5	4	0
	SCRANTON	34	20	49	5	27	1	0.80	0.30	0.45	2.25	82	0.00	0	81	56	0	6	2	0
	WILLIAMSPORT	35	16	44	-3	26	-1	0.36	-0.25	0.27	1.46	44	0.00	0	87	55	0	6	2	0
RI	PROVIDENCE	43	21	62	9	32	3	0.83	-0.31	0.45	2.84	59	0.00	0	82	54	0	6	2	0
SC	BEAUFORT	53	35	67	26	44	-6	0.04	-0.77	0.04	3.94	111	0.00	0	88	49	0	2	1	0
	CHARLESTON	54	34	72	25	44	-5	0.39	-0.38	0.20	5.19	149	0.00	0	80	40	0	3	2	0
	COLUMBIA	52	27	69	20	39	-5	0.09	-0.84	0.08	4.39	110	0.00	0	94	49	0	6	2	0
	GREENVILLE	48	27	64	19	37	-4	0.12	-0.83	0.12	4.25	93	0.00	0	83	42	0	7	1	0
SD	ABERDEEN	34	11	53	-3	23	12	0.04	-0.04	0.02	0.18	41	0.00	0	90	63	0	7	2	0
	HURON	40	18	59	5	28	14	0.01	-0.07	0.01	0.22	44	0.00	0	84	50	0	7	1	0
	RAPID CITY	47	22	66	5	35	13	0.07	-0.03	0.07	0.08	15	0.00	0	74	36	0	5	1	0
	SIOUX FALLS	38	17	55	4	28	13	0.04	-0.10	0.02	0.24	32	0.00	0	90	63	0	7	2	0
TN	BRISTOL	39	19	59	8	29	-6	0.07	-0.69	0.04	2.17	58	0.00	0	92	54	0	7	2	0
	CHATTANOOGA	48	28	65	19	38	-2	0.21	-0.94	0.18	3.30	58	0.00	0	91	50	0	7	2	0
	KNOXVILLE	42	22	59	13	32	-5	0.24	-0.77	0.12	2.37	48	0.00	0	89	58	0	7	3	0
	MEMPHIS	50	36	66	29	43	3	0.32	-0.78	0.20	4.52	73	0.00	0	81	50	0	3	2	0
	NASHVILLE	46	29	67	18	38	0	0.13	-0.81	0.08	2.19	44	0.00	0	78	46	0	5	3	0
TX	ABILENE	62	39	72	25	50	8	0.00	-0.22	0.00	3.16	282	0.00	0	80	41	0	4	0	0
	AMARILLO	46	25	63	15	35	0	0.51	0.42	0.51	2.63	572	0.51	1020	81	53	0	6	1	1
	AUSTIN	65	45	73	32	55	6	0.05	-0.33	0.04	4.31	211	0.05	31	78	44	0	1	2	0
	BEAUMONT	64	42	73	31	53	1	0.00	-1.11	0.00	6.62	126	0.00	0	92	53	0	1	0	0
	BROWNSVILLE	73	48	79	32	61	1	0.30	-0.02	0.19	0.56	40	0.11	73	80	43	0	1	3	0
	CORPUS CHRISTI	71	45	78	27	58	3	0.08	-0.26	0.04	0.28	19	0.08	43	78	40	0	2	2	0
	DEL RIO	64	38	68	26	51	1	0.01	-0.12	0.01	0.59	88	0.01	20	93	42	0	3	1	0
	EL PASO	56	28	66	21	42	-1	0.00	-0.12	0.00	1.41	220	0.00	0	84	40	0	6	0	0
	FORT WORTH	61	41	68	32	51	7	0.03	-0.37	0.02	6.96	345	0.03	18	81	50	0	2	2	0
	GALVESTON	62	48	68	37	55	2	0.02	-0.77	0.02	4.92	127	0.02	8	87	57	0	0	1	0
	HOUSTON	66	41	74	30	53	2	0.00	-0.77	0.00	5.42	143	0.00	0	89	48	0	2	0	0
	LUBBOCK	57	29	68	21	43	4	0.00	-0.10	0.00	1.75	307	0.00	0	87	42	0	4	0	0
	MIDLAND	60	30	70	22	45	2	0.00	-0.10	0.00	1.35	221	0.00	0	85	35	0	4	0	0
	SAN ANGELO	62	34	67	25	48	4	0.00	-0.17	0.00	1.38	162	0.00	0	80	40	0	4	0	0
	SAN ANTONIO	67	44	73	27	55	6	0.06	-0.27	0.03	3.61	219	0.06	40	78	38	0	2	3	0
	VICTORIA	66	42	76	31	55	2	0.16	-0.31	0.09	1.79	80	0.16	80	88	44	0	2	2	0
	WACO	62	41	69	31	52	6	0.12	-0.25	0.10	9.93	494	0.12	80	83	50	0	1	2	0
	WICHITA FALLS	62	38	74	27	50	10	0.14	-0.12	0.14	4.26	306	0.14	127	81	42	0	3	1	0
UT	SALT LAKE CITY	39	22	50	10	31	3	0.12	-0.17	0.12	0.76	49	0.12	100	92	72	0	5	1	0
VT	BURLINGTON	31	12	47	-15	22	3	0.65	0.18	0.56	1.70	65	0.05	25	91	61	0	6	4	1
VA	LYNCHBURG	40	21	57	6	30	-5	0.49	-0.20	0.47	2.72	77	0.00	0	84	49	0	7	2	0
	NORFOLK	48	30	64	25	39	-2	0.35	-0.48	0.33	2.85	74	0.00	0	82	51	0	5	2	0
	RICHMOND	46	27	64	17	37	0	0.21	-0.53	0.21	2.38	66	0.00	0	79	45	0	4	1	0
	ROANOKE	41	26	61	18	33	-2	0.47	-0.15	0.47	2.37	74	0.00	0	71	44	0	7	1	0
	WASH/DULLES	43	24	61	10	34	2	0.22	-0.45	0.22	1.92	55	0.00	0	86	51	0	6	1	0
WA	HANFORD	46	31	58	26	38	–	0.11	-0.03	0.11	0.42	39	0.11	183	82	62	0	5	1	0
	OLYMPIA	47	35	53	28	41	3	1.38	-0.47	0.89	7.21	81	1.08	133	100	89	0	3	6	1
	QUILLAYUTE	47	36	53	26	41	2	3.91	0.49	2.09	16.19	96	0.67	46	95	52	0	2	7	3
	SEATTLE-TACOMA	47	38	52	32	43	3	0.71	-0.59	0.58	3.33	51	0.70	125	96	76	0	2	3	1
	SPOKANE	40	28	48	24	34	8	0.17	-0.34	0.10	1.10	42	0.10	48	97	76	0	6	2	0
	YAKIMA	42	24	54	18	33	5	0.31	0.01	0.31	0.50	32	0.31	221	92	69	0	7	1	0
WV	BECKLEY	35	22	56	12	29	-2	0.59	-0.11	0.38	2.20	62	0.00	0	82	55	0	5	4	0
	CHARLESTON	41	26	62	15	33	0	0.13	-0.57	0.09	1.58	43	0.01	3	80	57	0	5	4	0
	ELKINS	36	14	57	3	26	-2	0.48	-0.26	0.44	2.53	66	0.00	0	86	50	0	7	2	0
	HUNTINGTON	41	28	61	17	35	1	0.12	-0.58	0.10	1.56	43	0.00	0	79	51	0	5	2	0
WI	EAU CLAIRE	33	16	48	0	25	13	0.12	-0.11	0.10	0.26	22	0.00	0	92	63	0	7	2	0
	GREEN BAY	33	17	47	4	25	9	0.09	-0.21	0.04	0.62	37	0.01	8	88	64	0	7	4	0
	MADISON	35	19	51	8	27	10	0.00	-0.33	0.00	1.25	63	0.00	0	85	68	0	6	0	0
	MILWAUKEE	38	20	54	11	29	8	0.17	-0.28	0.11	1.41	58	0.11	58	88	71	0	6	3	0
WY	CASPER	40	24	47	10	32	10	0.05	-0.09	0.05	0.96	133	0.00	0	78	58	0	6	1	0
	CHEYENNE	47	25	58	17	36	9	0.08	-0.03	0.08	0.59	131	0.00	0	75	38	0	5	1	0
	LANDER	40	18	48	6	29	10	0.00	-0.11	0.00	1.85	303	0.00	0	82	56	0	7	0	0
	SHERIDAN	44	21	59	9	32	12	0.17	0.00	0.15	0.78	97	0.00	0	84	63	0	6	3	0

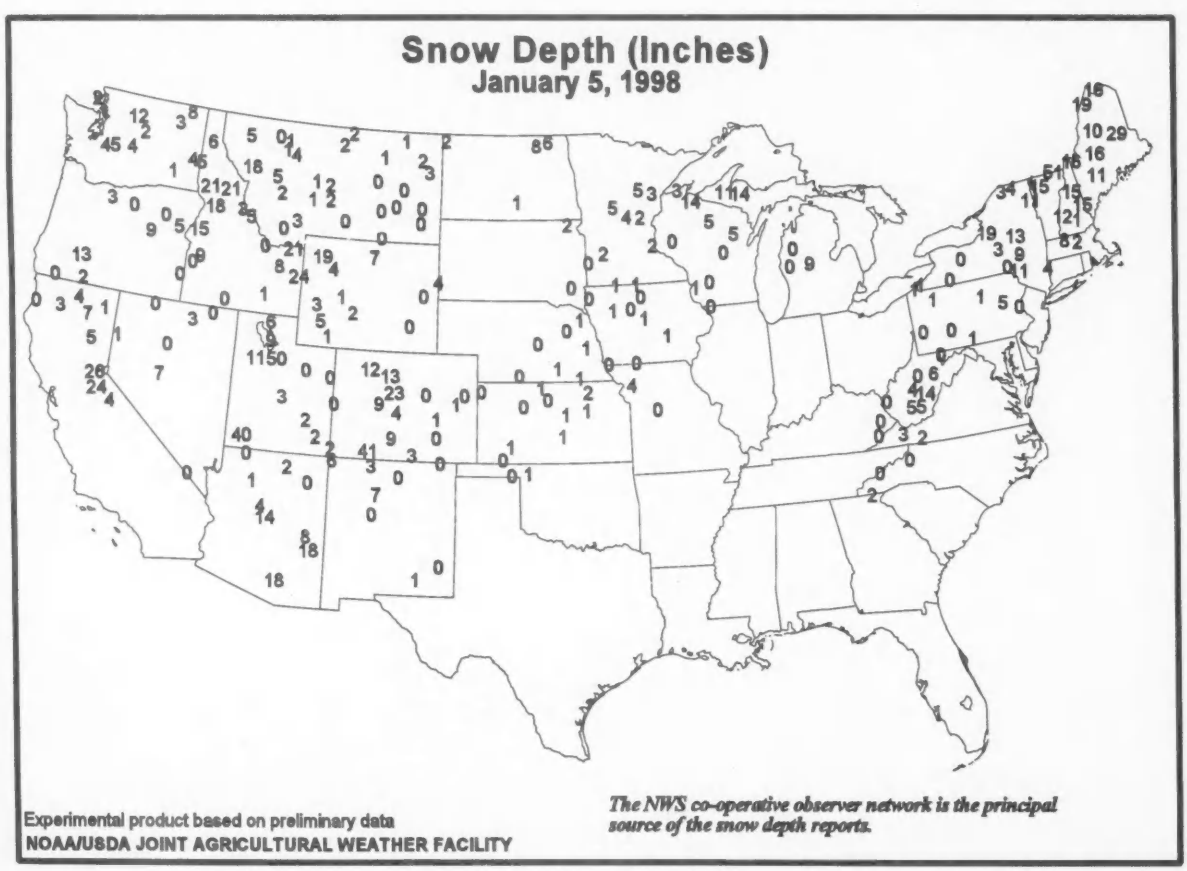
NOTE: These data are preliminary and subject to change. In the past, precipitation totals from a number of stations have been incomplete.

National Agricultural Summary

December 29, 1997 - January 4, 1998

HIGHLIGHTS

Most of the Nation was without significant precipitation except for an area stretching from the Gulf up the Appalachian chain and through New York and New England. Rains in southern areas and heavy snow in the Northeast further stressed livestock. The country experienced above-normal temperatures in all areas except for the Southeastern States. The continued lack of rainfall in the northern Plains added stress to the winter wheat crop, and the above-normal temperatures have reduced the snow cover. Some parts of the northern Plains have not received significant moisture for about 3 months. In Florida, sugarcane planting was active. Citrus harvesting crews were working as rapidly as possible to move the early and midseason crops of mature fruit. Movement of oranges to the processors was very active. In California, field activities were expected to resume as fields dried following earlier rains.


Snow Depth (Inches)
January 5, 1998
Experimental product based on preliminary data
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
The NWS co-operative observer network is the principal source of the snow depth reports.

December State Agricultural Summaries

These summaries, issued weekly through the summer growing season, provide brief descriptions of crop and weather conditions important on a national scale. More detailed data are available in Weather and Crop Bulletins published each Monday by NASS State Statistical Offices in cooperation with the National Weather Service. The crop weather reports are also available on the Internet through the NASS Home Page on the World Wide Web at http://www.usda.gov/nass/ or from JAWF at http://www.usda.gov/oce/waob/jawf.

ALABAMA: Wet weather conditions prevailed in most areas during December. Cold and wet weather hindered harvest of remaining cotton and soybean fields in most localities. A few winter annual pastures were over seeded. Cold weather helped prevent premature peach bloom set. Other activities included general care of livestock, poultry, catfish.

ARIZONA: Farmers busy harvesting cotton as this years' crop once again continued later than normal. Near the beginning of December only 91% of the acreage had been harvested, when near 92% complete is average. By month's end, 99% of the acreage had been harvested, few fields remained for January harvest. Stalk shredding, plowdown were active. As a result of the late cotton crop, many small grain fields awaited seeding. Early in the month, only 21% of the acreage had been planted. As the month progressed, seeded acreage increased to 70%, still remained behind the average of 80%. Alfalfa hay harvest was almost complete, with only 13% of the acreage actively being harvested at the beginning of the month. That slowed considerably, and by month's end, 10% of the acreage had light harvest. Sheeping off decreased during the month. Rain, snow that fell during the month of December have picked things up, there is potential for a good spring. High elevation pastures reported mostly fair conditions. Lower elevation pastures were in fair to good condition, along with mid elevation pastures which were also mostly fair to good. Livestock was reported in good condition. Soil moisture was adequate in most areas of the State, while stock water was also adequate. Insect damage is minimal. Central area producers harvested beets, bok choy, broccoli, cabbage, celery, cilantro, dill, green onions, kale, leeks, napa, mixed greens, parsley, radishes, spinach, swiss chard, turnips, dandelion, and kohlrabi. Central growers also shipped iceberg, leaf, and romaine lettuce. Western Arizona growers harvested bok choy, broccoli, cabbage, cauliflower, celery, endive, escarole, mixed greens, kale, napa, spinach, kohlrabi, salad savoy, along with Boston, iceberg, leaf, and romaine lettuce. Citrus harvest continued to progress as navel oranges, miniolas, pink grapefruit, some fairchilds were harvested from the central area. Western area also harvested tangerines, grapefruit in addition to lemons.

ARKANSAS: Temperatures, precipitation were above normal for December 1997. Extension personnel report this weather was favorable to winter wheat growth during the month. Dry periods also allowed some wheat producers to replant spotty areas in fields. Heaviest rains fell across the State on 24th, and overall, precipitation during the last week of December 1.97 in. Temperatures have been above normal for all of December except the week ending December 28. No reports of adverse conditions to livestock were reported.

CALIFORNIA: December provided significant rainfall to the central and southern coasts. Temperatures were slightly below normal in the southeast interior. Northern areas the first half of December saw slightly warmer-than-normal temperatures. Northern, central areas had rainfall off and on throughout the month. As the month of December ended, field activities gradually resumed. Soils dried from earlier rains in the San Joaquin and Sacramento Valleys. Small grains, winter forages were planted and fertilized. Seeded fields of wheat, barley, oats, and new alfalfa grew well with abundant moisture. Some low-lying wheat fields were yellowing due to standing water. Plowdown of harvested cotton fields for pink bollworm control was ongoing where conditions permitted. Few fields of pima cotton remained standing for a second pick in the central San Joaquin Valley. Ground preparation for planting next year's cotton crop was underway, some fields were sprayed with pre-emergent herbicides. As the month ended, new crop sugar beets were growing rapidly in the southern San Joaquin Valley. Grain sorghum harvest had begun in some areas. Established alfalfa was treated for weeds. Alfalfa, winter forage were cut for hay or greenchopped. Where soil conditions permitted, pruning, vine tying, preplant preparation, field fumigation were December's primary cultural activities in orchards, vineyards. Some dormant sprays were applied to deciduous orchards. Bareroot, nursery stock digging continued. Persimmon harvest was winding down. Avocado picking continued throughout the month. Harvest of navel oranges, lemons, grapefruit, tangerines remained active. There was no discernable damage from chilly morning temperatures. Harvest of broccoli, cauliflower continued where conditions permitted. Lettuce was harvested in the desert areas. Cabbage harvest in the San Joaquin Valley progressed. Fumigation of sweet potato fields continued in Merced County. Garlic, onion transplants were growing well. Artichokes, brussels sprouts were harvested. Cantaloup, honeydew melons were harvested in the Imperial Valley. Other crops harvested were carrots, mustard greens, turnips, peas, parsley, celery, lima beans, green beans, onions, radishes, vineseed. Most foothill pastures, rangeland were greening, improving all month. Because of the abundant rainfall, forage quality and quantity were good for this time of year, although growth was relatively slow. Dryland pastures were recovering from the hot, dry conditions of the past summer. Sheep continued to graze harvested alfalfa hay fields. Honeybees were overwintering this month in State. By the end of December, most cattle were through calving; cows, calves were in good condition.

COLORADO: December was characterized by seasonal temperatures across most of the State, with the Southeast receiving several major snowfalls. Snow in the southeast part of the State further hindered sorghum harvesting that was initially delayed by a late-October blizzard, further delayed by November storms. Northeastern State, front range area have experienced warmer-than-usual temperatures with some readings in the 60s. Lack of snow cover in some areas may prove harmful for the upcoming wheat crop, has allowed cattle producers to conserve on hay stocks. West slope had mostly seasonal weather during December.

DELAWARE: Higher- than-normal temperatures reported for the month of December. Heavy mortality in poultry is being reported in Sussex County due to an increase in upper respiratory problems. Hay supplies are tight due to poor crop year. Warm weather is helping the late-planted wheat crop. Activities: Finishing the harvest of remaining soybeans, corn; manure, fall fertilizer applications.

FLORIDA: Topsoil adequate to surplus in Panhandle, northern Peninsula, central Peninsula. Southern Peninsula moisture adequate. Sugarcane growth normal. Sugarcane harvest active. Growers starting field preparations for spring-planted crops. Cool weather, strong winds affected growth of some vegetables, with most plants recovering. Vegetables harvested include snap beans, cabbage, carrots, sweet corn, cucumbers, eggplant, endive, escarole, lettuce, okra, parsley, peppers, radishes, squash, strawberries, tomatoes. Cool, wet, windy weather followed by warm, cloudy days. Moisture adequate to surplus all citrus areas. Harvesting very active all areas for both fresh,

processing. Caretakers cutting cover crops, starting to fertilize. Pasture feed very poor 5%, poor 5%, fair 30%, good 55%, excellent 5%. Cattle fair 30%, good 65%, excellent 5%. Panhandle winter forages doing well. Central area considerable pasture area with standing water, some ranchers trying to pump water out of pastures. Feeding of cattle was active. Southwest most pastures in fair to good condition. Cattle mostly in fair to good condition.

GEORGIA: Soil moisture adequate to mostly surplus. Wet conditions slowing growth, preventing final harvest of cotton, soybeans. Small grains planting 90 to 95%; soils water logged resulting in poor root systems. Farmers having to supplement feed to cattle. Pastures fair to poor condition. Onions about 95% transplanted. Pecan harvest 80 to 85%. Soybean harvest 85 to 90%. Cotton harvest about 90% complete. Tobacco bed preparation about 80% complete. Pruning of peach trees reported. Land preparation about 20% in central part of State.

HAWAII: Days suitable for fieldwork 7.0. Partly cloudy skies, isolated showers, sometimes heavy, fair for crops, farming. Banana harvesting steady, fields in fair to good condition. Showers helped most orchards. Papaya harvesting also steady. Field condition fair to good, depending on disease. Head cabbage harvesting active. Progress was good, head size and quality were mostly good. Tomato harvesting to pick up. Ginger root harvesting very active, shipments to U.S. mainland continuing. Sunny weather benefited harvesting.

IDAHO: Precipitation was below normal for the month of December. Irrigation water supply is still adequate, continued dry weather could cause problems. Mild weather has helped livestock producers save on feed costs. Hay supply is mostly adequate, quality is reported to be low. Hay, roughage supply 2% surplus, 69% adequate, 27% short, 2% very short. Good snow cover in northern areas, mild conditions in southern areas have benefited winter grains. Winter wheat 9% excellent, 86% good, 5% fair. Activities: Repairing machinery, feeding, marketing livestock, attending educational meetings, farm planning.

ILLINOIS: Unusually mild temperatures were experienced throughout the State last month, with no sub-zero weather. Precipitation has been near normal. Topsoil mostly adequate, with ground water mainly short. As of January 2, topsoil 5% surplus, 68% adequate, 25% short, 2% very short. Above-freezing weather has made feed lots muddy, cattle feeding difficult. Cattle were fed hay where snow cover was present, especially in northwestern areas. In areas not snow covered, livestock were also foraging in corn fields. On-again warm weather with soaking rains may send the wrong message on winter wheat dormancy. Winter wheat crop may turn susceptible to damage if the weather turns well below freezing. As of January 2, winter wheat 8% excellent, 59% good, 30% fair, 2% poor, 1% very poor. Movement of stored grain slowed due to low prices as farmers are waiting for a rebound.

INDIANA: Farmers in the northern areas of the state were trying to finish corn harvest. Very few days were available for fieldwork during December. Recent showers over most of the State have helped replenish topsoil, subsoil moisture. Hay supplies short some areas. Winter wheat fair to mostly good condition. Livestock are in mostly good condition. Major activities: Harvesting corn, hauling manure, spreading fertilizer and lime, moving grain to market, tilling soil, chopping stalks, stripping tobacco, drainage tiling, cleaning, repair of machinery, building repair, updating crop and financial records, caring for livestock.

IOWA: Summary for December 1997. Mild weather has kept temperatures comfortable, there is concern about lack of moisture in areas. Average depth of snow cover 2 in.; average depth of frost penetration 4 in. Soil moisture availability 5% very short, 20% short, 69% adequate, 6% surplus. Grain movement 17% none, 49% light, 32% moderate, 2% heavy. Availability of hay, roughage for livestock feed short 17%, adequate 79%, surplus 4%. Quality of hay, roughage poor 9%, fair 50%, good 41%. Lack of significant snow cover has allowed producers to graze cattle on corn stubble later than usual, especially helpful in areas where hay supplies are short. Utilization of stubble fields for grazing 19% none, 28% light, 41% moderate, 12% extensive. Erosion control, tiling, other earth work continued all month as frost penetration has been minimal. Conditions have been very good for livestock, with the exception of muddy lots, fields in the south-central, southeast. Hog, pig losses 15% below average, 84% average, 1% above average; cattle, calf losses 19% below average, 79% average, 2% above average.

KANSAS: Winter wheat remained in mostly good to excellent condition at the end of December. Ovevall winter wheat 23% excellent, 54% good, 21% fair, 2% poor. Conditions at the beginning of December had been 10% excellent, 67% good, 21% fair, 2% poor. Statewide snowfall, rain during December combined with moderate temperatures has resulted in on and off snowcover. Little wind and freeze damage has occurred to this date. Month's precipitation has caused muddy feedlot conditions througtout the State which has stressed livestock. Some areas have moved cattle off of field stubble, pastures due to the mud, snow. Supplemental feeding has started, with current hay, forage conditions generally adequate. A small amount of acreage has not been harvested due to the precipitation.

KENTUCKY: Limited rainfall, cooler temperatures prevailed the first half of December. Milder temperatures returned after mid-month, limited precipitation kept totals well below normal. End-of-month cold, snow limited farm activities. Tobacco curing was hampered by the lower humidity, cold temperatures. Burley tobacco stripping continued to lag normal as much of the late crop needed additional curing time. Gross Burley sales volume through 12/18 was 280.7 million lbs. for an average price of $191.70 per lb. Auctions recessed for Christmas break and will resume on Monday, January 12, 1998, which is a week later than normal due to the need for additional curing time for later harvested tobacco. Burley Cooperative took nearly 15.7 million pounds or 4.1 percent for the season-to-date for the Burley Belt. Poor pasture conditions going into winter caused supplemental feeding of cattle at moderate levels most of December. Hay supplies remain adequate in all areas, shortages are expected by winter's end. Winter wheat condition continued generally good to fair with no real decline due to the lack of extreme cold weather.

LOUISIANA: Days suitable for fieldwork 3.5. Soil moisture supplies throughout the State were generally surplus. Winter cold fronts produced numerous thundershowers throughout the month. Temperatures were normal to slightly below normal. Warmer conditions that occurred between cold fronts were too short to allow much fieldwork to be done. Sugarcane producers wrapped up harvesting operations around the last week in December. It was reported that tonnage, sucrose were above average. Harvest went smoothly until rains slowed operations during the last 3 weeks of harvest. Winter Wheat: All winter wheat was emerged and stands were moderate to good. Vegetables: Strawberry producers wrapped up plantings, and cold weather vegetables were sold commercially and at farmers markets. Livestock: Producers began feeding hay, supplemental feeds due to two cold snaps that limited pasture growth. Hay supplies were good. Crawfish: Producers were bracing for a short season. Supplies, they say, will be limited until later in the season because of current low water levels in the Basin areas. Pasture feed: Winter pasture growth was slow due to two episodes of freezing weather and excessive soil moisture.

MARYLAND: Above-average temperatures. Hay supplies are very tight for the north-central, upper eastern shore counties due to poor yields. However, hay supplies very good for lower eastern shore. Mild weather has given boost to late-planted winter grain crops, especially wheat, and has allowed late

harvesting of soybeans, corn to be finished. Activities: Manure hauling, fertilizer applications, machinery repairs.

MICHIGAN: Month had little precipitation. Lack of snow cover could put alfalfa, winter wheat at risk. Some farmers were hauling manure, spreading potash, tilling fields, or pruning fruit trees. Others were keeping up with the books, machinery repairs. Warm weather was beneficial to the livestock. Some lambing had started. Hay was in short supply, other feeds were at normal levels.

MINNESOTA: December, little frost in the ground, some late tillage work was possible early in the month. For the season, compared with a normal year, especially compared with last year's extremely harsh winter, conditions for outdoor livestock were very favorable. Feed requirements were moderate with the mild temperatures, herd health was generally good with feedlots relatively dry. Quality forage supplies so far are tight, adequate. Widespread lack of snow cover means alfalfa stands are at risk from ice storms or prolonged low temperatures.

MISSISSIPPI: Main farming activities for the month of December were feeding cattle, repairing, maintaining farm equipment, other performing winter farm chores. Cattle were in mostly good condition. Hay supply was mostly adequate, wheat was in mostly fair condition. We had snowfall, rain during the month, temperatures were variable.

MISSOURI: Topsoil 4% short, 68% adequate, 28% surplus. Winter wheat 3% poor, 40% fair, 51% good, 6% excellent. Supply of hay, other roughage 1% very short, 11% short, 78% adequate, 10% surplus. Condition of livestock 1% poor, 19% fair, 70% good, 10% excellent. Stock water supplies 2% very short, 9% short, 80% adequate, 9% surplus. Farmers remained busy during December with general farm maintenance. Pastures 2% very poor, 13% poor, 39% fair, 39% good, 7% excellent.

MONTANA: Topsoil 10% very short, 42% short, 40% adequate, 8% surplus. Subsoil 8% very short, 45% short, 39% adequate, 8% surplus. Winter wheat wind damage 1% heavy, 13% moderate, 60% light, 26% none. There is concern about the lack of snow cover for winter wheat. Much of the snow received during December had melted. Winter wheat protectiveness of snow cover 40% very poor, 47% poor, 9% fair, 4% good, 0% excellent. Livestock good to excellent condition. Feed supplies are in good shape. Supplemental feeding continues with 84% of cattle and calves receiving supplemental feeding, 86% of sheep and lambs. Livestock grazing 1% closed, 11% difficult, 88% open.

NEBRASKA: Above-normal temperatures during much of December provided open conditions for livestock grazing but has left wheat exposed to wind, cold temperatures. December moisture in the form of rain, snow amounted to more than an inch in the north-central, south-central, southeastern parts of the State. More moisture was needed in the west as only half an inch was recorded for the month. Some reports indicated that elevators continued to pile grain outside in emergency storage. Winter wheat 2% poor, 27% fair, 63% good, 8% excellent. Feed grain supplies 2% short, 90% adequate, 8% surplus. Hay, forage supplies 1% very short, 14% short, 78% adequate, 7% surplus. Activities during December: Delivering grain, recordkeeping, financial planning, livestock care, equipment repair and maintenance, routine chores.

NEVADA: Precipitation was below normal during December. Temperatures averaged near normal to a few degrees below. Snow pack limited to date. Grazing of dormant hay fields common. Potato, onion marketing ongoing. Main farm, ranch activities: Livestock feeding, livestock marketing, equipment maintenance.

NEW ENGLAND: December precipitation below average in most areas. Topsoil is snow covered in northern, central areas. Christmas tree farms report strong demand over holiday season. Hay shortage reported in some areas. Major farm activities: Fixing equipment; caring for livestock.

NEW JERSEY: Temperatures above normal for December. Harvesting of vegetables complete except in parts of southern areas where harvesting of fall spinach, cabbage, leeks, herbs continue. Other activities include: Harvesting corn, soybeans, deer hunting as a pest control measure, repairing machinery, record keeping, mowing, mulching of corn stalks, removal burning of dead fruit trees.

NEW MEXICO: December began with winter storms moving through the north, eastern regions of the State. Warm weather followed, was quickly proceeded by below-normal temperatures that continued until the middle of the month. The last half of December was marked by abnormally cold weather, more winter storms that dumped snow over most of the State. Many ranchers reported losses to livestock, especially sheep, because of the storms. Stranded livestock in many areas had hay airlifted to them under emergency feed provisions. Although most of the State received above-normal precipitation during December, many ranchers were still hauling water to livestock. Supplemental feeding also continued to take place in most counties. Abundant rainfall delayed pecan harvest, which was still underway the last of the month. Many other producers were turning under crop stubble, preparing land for spring crops.

NEW YORK: Major activities included tending livestock, maintenance, attending meetings, spreading manure, moving crops from storage, grading and packing. Winter storms made outside chores difficult. Orchard clean-up, winter pruning progressed as weather permitted. Snow cover protected pasture, fall seeded crops from coldness.

NORTH CAROLINA: Soil moisture is 1% short, 49% adequate, 50% surplus. Activities included: Maintaining pastures; tending livestock; repairing equipment.

NORTH DAKOTA: Above-normal temperatures, below-normal snowfall have been a welcomed relief to livestock producers. Grain marketing was slow due mostly to low prices. State average snow depth is 1.6 in., down substantially from 19.3 in. 1996. Snow cover at present time is only sufficient to protect 21% of alfalfa. Cattle 1% poor, 13% fair, 71% good, 15% excellent; sheep 11% fair, 78% good, 11% excellent. Livestock receiving supplemental feed: cattle 96%, sheep 97%. Hay, forage supplies 1% very short, 7% short, 87% adequate, 5% surplus. Cattle sales: 3% below normal, 93% normal, 4% above normal.

OHIO: Precipitation was below normal but some ponding was reported, minimal snow cover. Few growers finished harvesting their soybean crops early in the month. There is still some corn left in the fields. Winter wheat in good conditions, under some stress. Some places, winter wheat was greening up, growing; causing concern if temperatures were to drop suddenly. Tobacco growers were stripping, taking tobacco to market. One reporter mentioned they are behind schedule due to the slow curing conditions, late crop. Livestock are in good condition, concerns for livestock in closed barns with the fluctuating temperatures. Activities: Corn drying; hauling, binning, selling corn and soybeans; baling corn stalks; hauling, spreading manure; spreading lime, fertilizer; fall tillage; tiling; late fall spraying; equipment repair, maintenance, winter storage preparations; cleaning barns, lagoons; attending winter agronomy, tax management meetings.

OKLAHOMA: Rain, snow in December improve soil moisture. Wheat 41% grazed, 38% 1997, 35% avg. Oats 26% grazed, 36% 1997, 24% avg. Cotton 98% harvested, 94% 1997, 97% avg. Cattle good, marketings near average.

OREGON: Activities: Nursery digging, container movement continued. Winter orchard pruning continued statewide. Winter farm, ranch activities continued. Cattle, sheep good to excellent. Cattle on supplemental feed. Snow pack lower then last year at this time, recent storms are helping to increase it.

PENNSYLVANIA: Counties in the northeast portion of the State received above-average precipitation for the month, while the remainder of the State was up to 1.3 in. below normal. Some difficulty in hauling manure created by the recent warmer weather as the ground thawed. Farmers began making plans for spring planting. Activities: Hauling manure; fixing fences; caring for livestock.

SOUTH CAROLINA: Overall, December was cold; throughout the month temperatures ranged from mid-teens in the mountains to mid-70s along the coast. From mid-month forward, the upstate endured rain, sleet, snow. Statewide precipitation was above normal. During the first part of the month, farmers were busy trying to finish cotton, soybean harvesting. As the month progressed, farm activities were slowed due to rainfall and holidays. Pasture, livestock condition remained good.

SOUTH DAKOTA: Weather conditions for the month of December were mild and dry. With much open grazing, livestock are in good condition . Death losses for calves and lambs from the fall crop were low to normal. Calf deaths 22% below average, 78% normal. Lamb deaths 15% below average, 85% normal. Feed supplies 1% short, 88% adequate, 11% surplus. Stock water 3% short, 92% adequate, 5% surplus. Winter crops are exposed to risk due to scant snow cover. There is concern that exposed winter wheat and rye crops will be hurt, due to lack of snow cover, if more frigid temperatures prevail. As of the end of December, 94% of the alfalfa crop was under poor snow cover, 5% was adequate snow cover, 1% under excellent snow cover; 100% of the winter wheat crop was under poor snow cover; 91% of the winter rye crop was under poor snow cover, 9% was adequate snow cover. Some reports of winter wheat green-up in some areas, with concern of the crop breaking dormancy. Also, with lack of snow cover, more than usual amount of fall tillage done, there is a risk of soil erosion from high winds.

TENNESSEE: Final harvest, fall seeding proceeded normally to completion in December. Above-normal temperatures, below-normal precipitation characterized the weather. Cattle remained in mostly good condition. Hay supplies were mostly adequate, with only a few producers reporting shortages. Winter wheat crop on January 1 mostly good condition.

TEXAS: Nice weather conditions early in the month gave way to cold, wet conditions by the end of December. Harvest operations experienced some delays in the High Plains, most harvest was completed by the end of the month. Ginning operations continued at a steady pace in the Plains during the month. Moisture was beneficial to small grains, winter pastures across the State. Livestock conditions remained good for most of the month. However, a couple of cold spells did cause some poor performance in feedlots, problems getting hay, supplements out to cattle on pastures. Month ended wet in most areas with mild temperatures reported. Milder temperatures along with addtional rainfall aided the growth of small grains.

UTAH: Major farm, ranch activities in the month of December included feeding farm animals, hauling manure, repairing, servicing equipment. There has been no severe weather effects throughout the month. Some animals were still able to graze rather than be fed hay. Livestock has been in good to excellent condition. Crop harvest has been completed.

VIRGINIA: Wet, muddy field conditions prevailed during most of December in many localities. Harvest completion for grain corn, soybeans, cotton was delayed due to excessive precipitation during parts of the month. Wet field conditions also caused fall planting delays. Small grains that were seeded on schedule have been reported in mostly fair to good condition. However, 13% was reported in poor condition and 10% of the crop was reported in excellent shape. Some producers are concerned with late-planted small grains that have not emerged. Some earlier seeded fields required replanting and others have thin stands due to weather, field conditions. Other small grain producers are concerned with acreage that will not be planted due to late corn, soybean harvests. Livestock were in mostly good condition for the month of December. Fall calving ended this month with very few problems. Some localities reported that some fall-calving cows were thin going into calving resulting in smaller calves. Pasture is available in some southeast localities, supplying up to 80% of cattle, sheep forage requirements. Some beef producers remain concerned about hay supplies. Other activities for the month of December include performing general farm, equipment repairs, tax preparation, fencing, pruning fruit trees, grapes, attending meetings for pesticide recertification. Weather during December was very seasonable. Most western, southwestern localities of the State received heavy snow during the last week of the month, with heaviest accumulations of up to 15 inches. Other areas of the State saw a few flurries to a light dusting.

WASHINGTON: Topsoil 1% short, 64% adequate, 35% surplus; subsoil 3% short, 92% adequate, 5% surplus. Hay, other roughage supplies, 2% short, 84% adequate, 14% surplus. Mild winter weather conditions were reported throughout State. West of the Cascade Mountain range, wet field conditions were reported. Field activity was at a standstill. Eastern areas reported an unusual absence of snow, except for the northern counties which reported 1 to 2 inches covering the ground. Winter wheat looks good, but producers are concerned with the lack of snow cover. Accumulated moisture was below normal in most areas. Pruning operations were ahead of schedule due to the good weather conditions. Grazing conditions were reported as good for this time of year. Feeding was ongoing in most areas, producers had a good supply of hay, as the open winter has not required the excess feeding that was prevalent in 1996. Christmas tree growers reported average sales.

WEST VIRGINIA: Activities for the month of December: Good weather has allowed farmers to continue harvest of remaining corn, soybeans. Some corn, soybean fields are still remaining to be harvested. Feeding of hay has been lighter due to mild weather. Winter wheat is showing improvement with warmer weather, increased moisture. Most of the tobacco crop has been stripped, sold.

WISCONSIN: As of late December, the frost level was 2.8 in., compared with 5.0 in. in 1996 and the 7.3 in. 36-year avg. Snow depth was 2.3 in., compared with 8.6 in. in 1996 and the 5.9 in. 36-year average. Temperatures have been above normal for the month.

WYOMING: Topsoil 1% very short, 15% short, 80% adequate, 4% surplus. Subsoil 2% very short, 21% short, 77% adequate. Average depth of snow cover: 2.8 in. Only far western areas of the State reported any snow cover. Winter wheat 20% fair, 70% good, 10% excellent. Winter wheat wind damage 47% none, 50% light, 3% moderate. Winter wheat freeze damage 84% none, 13% light, 3% moderate. Cattle, sheep in mostly good condition. Hay, roughage supplies 16% short, 76% adequate, 8% surplus. Producers were busy feeding livestock, preg testing cows, vaccinating, maintaining farm equipment, fixing fence.

International Weather and Crop Summary

December 28, 1997 - January 3, 1998

HIGHLIGHTS

FSU-WESTERN: Unseasonably mild weather diminished protective snow cover in the south.

EUROPE: Stormy weather prevailed over western Europe, bringing strong winds and widespread precipitation.

NORTHWESTERN AFRICA: Widespread rain boosted moisture supplies for winter grain development in Morocco.

AUSTRALIA: Dry weather returned to primary summer crop areas, spurring cotton and sorghum growth.

SOUTH ASIA: Unseasonable coolness continued, slowing summer crop drying and winter grain development.

SOUTH AFRICA: Widespread, soaking rain benefited vegetative corn and may have encouraged late planting.

SOUTHEAST ASIA: Scattered showers prevailed across southern Sumatra and Java, where more rain is needed.

CHINA: Despite unseasonably warm weather, winter wheat remained dormant across the North China Plain.

SOUTH AMERICA: Heavy showers caused local flooding in extreme southern Brazil, but more rain is needed farther north.

December 1997

MONTHLY DATA FROM SELECTED FOREIGN CITIES
CLIMATE PREDICTION CENTER-NCEP-NWS-NOAA
***** DATA NOT AVAILABLE*

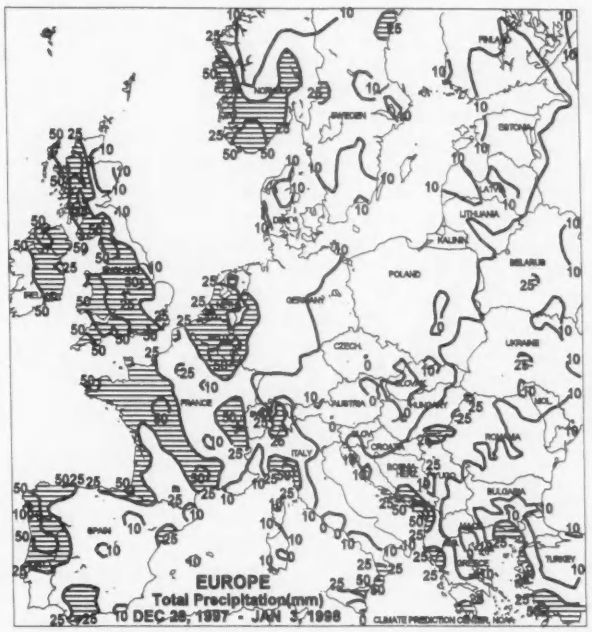
COUNTRY	CITY	TEMPERATURE (C) AVG MAX	AVG MIN	HI MAX	LO MIN	AVG	DPART F/NRM	PRECIPITATION (MM) TOTAL	DPART F/NRM
NORWAY	OSLO	-2	-4	4	-17	-3	2.3	95	31
SWEDEN	STOCKHOLM	1	-2	6	-13	0	0.8	32	-14
FINLAND	HELSINKI	-2	-6	2	-17	-4	0.3	31	-25
UKINGDO	GLASGOW	8	3	12	-6	5	0.6	143	28
	EDINBURGH	8	3	13	-5	5	1.3	100	42
	LONDON	9	5	15	-2	7	1.4	108	27
IRELAND	DUBLIN	9	4	14	0	7	0.7	89	13
ICELAND	REYKJAVIK	5	2	12	-5	3	3.1	161	82
DENMARK	COPENHAGEN	3	1	8	-7	2	-0.4	36	-13
LUXEMBO	LUXEMBOURG	4	1	12	-6	3	1.5	103	23
SWITZERL	ZURICH	4	1	13	-6	3	1.9	131	54
	GENEVA	6	2	14	-4	4	2.0	88	1
FRANCE	PARIS/ORLY	8	4	15	-2	6	****	84	****
	STRASBOURG	5	2	15	-5	4	1.9	82	40
	BOURGES	8	3	17	-3	6	1.9	53	-9
	BORDEAUX	11	5	18	-3	8	2.2	206	106
	TOULOUSE	11	5	19	-3	8	2.1	36	-19
	MARSEILLE	12	5	16	-2	9	1.5	36	-19
SPAIN	VALLADOLID	9	4	18	-3	6	2.1	130	88
	MADRID	10	4	17	-4	7	1.3	55	9
	SEVILLE	16	9	21	5	13	1.5	190	106
PORTUGA	LISBON	15	11	18	4	13	1.3	155	51
GERMANY	HAMBURG	5	1	10	-11	3	1.0	61	-12
	BERLIN	4	1	11	-14	2	0.7	67	14
	DUSSELDORF	7	4	15	-7	5	2.2	75	18
	LEIPZIG	4	0	11	-12	2	0.6	58	21
	DRESDEN	4	1	11	-12	2	1.8	59	22
	STUTTGART	5	1	14	-7	3	2.1	60	14
	NURNBERG	4	0	12	-8	2	1.5	52	0
AUSTRIA	VIENNA	5	1	12	-7	3	1.9	53	16
	INNSBRUCK	5	0	14	-6	3	3.7	108	58
CZECHRE	PRAGUE	3	-1	10	-11	1	1.7	42	18
POLAND	WARSAW	1	-2	9	-19	0	0.7	30	-3
	LODZ	2	-1	9	-17	0	1.2	35	-7
	KATOWICE	3	-1	10	-17	1	2.0	48	4
	PRZEMYSL	1	-3	9	-20	-1	0.0	63	23
HUNGARY	BUDAPEST	4	1	9	-7	2	1.9	29	-13
YUGOSLA	BELGRADE	7	2	16	-8	5	2.2	83	25
ROMANIA	BUCHAREST	4	-3	11	-20	0	-0.1	57	10
BULGARIA	SOFIA	3	-2	10	-15	1	0.1	75	25
ITALY	MILAN	8	3	17	-2	5	3.1	117	62
	VERONA	8	3	16	-1	6	2.8	110	60
	VENICE	9	3	13	-1	6	2.7	93	43
	GENOA	13	8	28	3	11	1.6	107	-1
	ROME	15	6	18	0	10	1.1	4	-86
	NAPLES	14	7	19	1	11	1.4	112	-5
GREECE	THESSALONIKA	10	4	17	-1	7	0.3	43	-13
	LARISSA	10	3	16	-2	7	0.3	69	15
	ATHENS	14	9	19	5	12	-0.4	108	42
TURKEY	ISTANBUL	10	7	16	-2	9	0.8	153	62
	ANKARA	6	-1	13	-10	2	0.5	90	61
CYPRUS	LARNACA	19	10	22	5	14	0.6	57	-46
ESTONIA	TALLINN	-2	-5	5	-16	-3	-0.7	36	-16
LITHUANI	KAUNAS	-2	-5	7	-20	-3	-1.0	40	-5
BELARUS	MINSK	-4	-7	4	-25	-5	-1.2	42	-8
RUSSIA	KAZAN	-8	-13	1	-32	-11	-2.0	78	42
	MOSCOW	-8	-10	3	-29	-8	-1.8	44	-8
	YEKATERINBURG	-12	-18	0	-32	-15	-4.6	95	73
	OMSK	-16	-21	-7	-39	-19	-4.3	86	65
	NOVOSIBIRSK	-14	-19	-2	-36	-16	-0.1	40	17
	BARNAUL	-12	-18	0	-33	-15	-1.2	40	12
	KHABAROVSK	-12	-20	-4	-27	-16	1.7	36	17
	VLADIVOSTOK	-4	-10	4	-22	-7	2.3	12	-4
	SARATOV	-8	-13	2	-29	-10	-2.7	89	56
	VOLGOGRAD	-5	-10	7	-31	-8	-2.7	66	21
	ASTRAKHAN	-1	-7	8	-27	-4	-1.9	32	18
	KRASNODAR	5	-2	16	-19	2	-0.3	113	38
	ORENBURG	-10	-16	1	-33	-13	-3.5	76	47
KAZAKHS	TSELINOGRAD	-11	-16	0	-37	-15	-2.0	60	43
	KARAGANDA	-10	-17	0	-35	-14	-2.4	83	41

Based on Preliminary Reports

December 1997

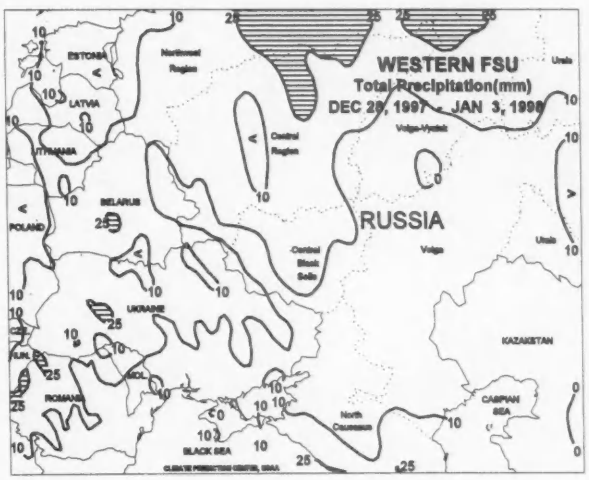
COUNTRY	CITY	TEMPERATURE (C) AVG MAX	AVG MIN	HI MAX	LO MIN	AVG	DPART F/NRM	PRECIPITATION (MM) TOTAL	DPART F/NRM
GEORGIA	TBILISI	10	0	17	-7	5	0.9	34	9
UZBEKIST	TASHKENT	8	1	21	-9	5	1.3	49	-4
TURKMENI	ASHKHABAD	10	0	23	-7	5	0.5	20	-1
SYRIA	DAMASCUS	15	4	22	-3	9	1.8	40	-12
ISRAEL	JERUSALEM	14	7	22	3	11	0.5	117	-1
PAKISTAN	KARACHI	25	14	28	8	19	-0.3	0	-4
INDIA	AMRITSAR	17	7	22	0	12	-1.3	1	-17
	NEW DELHI	17	9	24	4	13	-2.5	62	52
	AHMEDABAD	27	15	30	10	21	-0.9	0	-3
	INDORE	24	14	29	10	19	0.0	13	3
	CALCUTTA	25	14	31	9	20	-0.7	13	10
	VERAVAL	29	16	31	11	23	-0.7	0	0
	BOMBAY	30	19	33	14	25	-0.2	21	20
	POONA	29	15	30	9	22	1.5	64	57
	BEGAMPET	29	19	31	15	24	2.6	41	34
	VISHAKHAPATNAM	28	23	30	22	25	***	81	**
	MADRAS	30	23	33	15	27	1.8	385	227
	MANGALORE	33	24	34	22	28	1.3	22	4
HONGKO	KINGS PEAK	22	17	27	11	19	***	9	**
S KOREA	SEOUL	6	-1	13	-11	2	3.5	37	5
JAPAN	SAPPORO	3	-2	11	-7	1	1.7	80	-20
	NAGOYA	12	4	16	-1	8	1.8	62	22
	TOKYO	12	6	18	3	9	1.3	43	-3
	YOKOHAMA	12	6	16	2	9	1.5	51	-8
	KYOTO	12	5	21	-1	8	2.0	78	33
	OSAKA	12	6	21	0	9	1.2	85	50
THAILAND	PHETCHABUN	33	19	36	17	26	3.5	0	0
	BANGKOK	34	25	36	23	29	3.4	0	-12
MALAYSIA	KUALA LUMPUR	33	24	35	24	29	2.5	236	5
VIETNAM	HANOI	22	18	29	13	20	1.4	42	22
CHINA	HARBIN	-6	-15	2	-24	-11	6.9	2	-3
	HAMI	-2	-15	2	-18	-8	-1.1	1	0
	LANCHOW	3	-6	8	-12	-2	2.2	0	-1
	BEIJING	3	-6	9	-9	-1	0.5	9	7
	TIENTSIN	3	-6	10	-10	-1	-0.1	9	5
	LHASA	6	-7	13	-10	0	1.1	0	0
	KUNMING	16	6	20	2	11	2.9	16	-2
	CHENGCHOW	8	-1	16	-7	3	2.3	4	-5
	YEHCHANG	10	5	17	0	7	0.2	26	4
	HANKOW	9	4	15	-1	7	1.5	66	39
	CHUNGKING	10	7	13	3	9	***	10	**
	CHIHKIANG	9	5	16	-1	7	-0.1	52	18
	WU HU	9	4	15	-3	6	***	75	**
	SHANGHAI	10	6	16	0	8	***	93	**
	NANCHANG	10	6	14	-3	8	0.2	96	57
	TAIPEI	21	17	27	11	19	1.8	91	17
	CANTON	20	13	27	9	17	1.5	49	23
	NANNING	19	13	26	8	16	1.0	44	21
CANARY I	LAS PALMAS	24	18	26	13	21	2.6	6	-16
MOROCC	CASABLANCA	19	11	23	7	15	1.4	74	-4
	MARRAKECH	20	8	24	5	14	1.3	33	2
ALGERIA	ALGER	18	8	24	2	13	1.4	82	-26
	BATNA	13	2	19	-3	8	1.7	46	16
TUNISIA	TUNIS	17	10	21	3	14	1.3	94	30
NIGER	NIAMEY	34	17	38	13	26	0.7	0	0
MALI	TIMBUKTU	30	16	37	11	**	***	0	0
	BAMAKO	32	18	36	15	25	0.2	0	0
MAURITAN	NOUAKCHOTT	30	16	35	12	23	0.8	0	0
SENEGAL	DAKAR	27	21	33	17	24	1.8	0	0
CHAGOS	DIEGO GARCIA	**	**	32	27	**	***	**	**
LIBYA	TRIPOLI	19	8	25	6	14	0.3	66	21
	BENGHAZI	19	11	25	1	15	0.8	31	-37
EGYPT	CAIRO	20	11	25	5	16	0.5	6	0
	ASWAN	24	11	30	8	18	0.2	0	0
ETHIOPIA	ADDIS ABABA	**	**	26	4	**	***	**	**
KENYA	NAIROBI	24	16	26	15	20	0.8	117	38
TANZANIA	DAR ES SALAAM	**	**	32	19	**	***	265	163
GABON	LIBREVILLE	30	22	31	19	26	-0.3	296	-38
TOGO	LOME	**	**	35	21	**	***	18	9
BURKINA	OUAGADOUGOU	34	18	37	15	26	1.0	0	0
COTE D'I	ABIDJAN	32	25	33	19	29	1.8	100	23
MOZAMBI	MAPUTO	29	22	36	15	25	0.0	23	-54
ZAMBIA	LUSAKA	**	**	32	16	**	***	86	-65
ZIMBABW	HARARE	28	**	32	15	**	***	36	-133
S AFRICA	PRETORIA	30	17	33	0	23	1.4	64	-41
	JOHANNESBURG	25	14	28	8	20	0.6	101	-3
	BETHAL	25	13	30	7	19	0.1	93	-32
	DURBAN	26	20	32	15	23	-0.5	72	-31
	CAPE TOWN	25	15	34	10	20	0.5	12	-7
CANADA	TORONTO	2	-4	9	-17	-1	2.5	36	-29
	MONTREAL	-2	-9	4	-23	-6	1.2	34	-52
	WINNIPEG	-2	-9	6	-25	-5	9.2	1	-18
	REGINA	1	-11	13	-20	-5	8.5	2	-14
	SASKATOON	0	-11	8	-20	-6	9.1	5	-12
	LETHBRIDGE	4	-8	16	-23	-2	4.5	21	0
	CALGARY	3	-9	15	-21	-3	5.7	1	-12
	EDMONTON	2	-7	15	-16	-2	8.1	1	-22
	VANCOUVER	8	2	11	-2	5	1.5	137	-42
MEXICO	GUADALAJARA	**	**	23	1	**	***	**	**
	MEXICO CITY	**	**	27	2	**	***	1	-15
	ACAPULCO	**	**	33	21	**	***	**	**
BERMUDA	ST. GEORGES	22	17	25	15	20	0.5	214	98
BAHAMAS	NASSAU	26	19	30	12	23	1.0	75	19
JAMAICA	KINGSTON	31	26	33	23	28	2.1	36	1
P RICO	SAN JUAN	31	23	32	22	27	1.1	26	-87
GUADELO	RAIZET	31	23	32	21	27	2.1	51	-43
MARTINIQ	LAMENTIN	30	24	31	21	27	2.1	95	-77
BARBADO	BRIDGETOWN	30	24	30	22	27	1.2	59	-46
TRINIDAD	PORT OF SPAIN	31	23	32	20	27	1.5	76	-60
COLOMBI	BOGOTA	22	5	24	0	14	0.6	3	-43
VENEZUE	CARACAS	31	23	32	22	27	1.7	0	-48
F GUIANA	CAYENNE	30	23	32	22	27	0.9	301	-61
BRAZIL	RECIFE	30	**	31	21	**	***	84	25
	BELO HORIZONTE	29	21	34	18	25	2.1	183	-134
	FRANCA	27	**	31	18	**	***	83	-193
	RIO DE JANEIRO	**	**	38	25	**	***	**	**
	LONDRINA	**	**	36	18	**	***	**	**
	SANTA MARIA	30	**	37	15	**	***	304	171
	PORTO ALEGRE	29	19	37	14	24	0.5	229	141
PERU	LIMA	28	22	30	21	25	4.3	2	2
BOLIVIA	LA PAZ	18	4	22	1	11	1.5	23	-79
CHILE	SANTIAGO	27	12	33	8	19	-0.5	7	4
ARGENTIN	IGUAZU	32	21	37	16	26	***	114	**
	FORMOSA	34	24	39	19	29	2.6	116	-29
	CERES	30	18	36	11	24	-0.2	437	308
	CORDOBA	28	17	37	12	23	-0.2	348	204
	RIO CUARTO	27	17	34	10	22	-0.4	190	49
	ROSARIO	28	18	35	12	23	-0.2	133	10
	BUENOS AIRES	26	16	32	10	21	-1.2	171	78
	SANTA ROSA	28	14	35	8	21	-1.4	39	-46
	TRES ARROYOS	25	12	33	6	19	-1.2	43	-52
NEW CAL	NOUMEA	31	24	34	22	28	2.8	34	-38
FIJI	NAUSORI	29	23	32	20	26	1.1	103	-159
SAMOA	PAGO PAGO	**	**	32	26	**	***	**	**
TAHITI	PAPEETE	31	25	33	23	28	1.5	181	-119
AUSTRALI	DARWIN	32	25	34	22	28	-0.7	393	159
	BRISBANE	28	22	31	19	25	0.7	64	-82
	PERTH	30	16	40	11	23	1.0	0	-10
	CEDUNA	25	14	35	10	20	-1.2	74	57
	ADELAIDE	24	14	32	12	19	-0.7	18	-7
	MELBOURNE	22	11	32	7	17	-1.3	3	-47
	WAGGA	31	15	39	10	23	1.4	26	-24
	CANBERRA	28	13	36	7	21	1.9	11	-42
INDONESI	DJAKARTA	33	25	36	23	29	2.2	57	**
PHILIPPI	MANILA	**	**	34	25	**	***	**	**

Based on Preliminary Reports



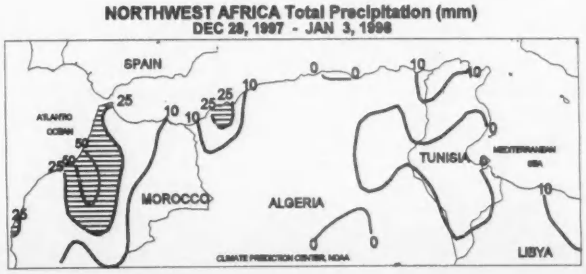
EUROPE

A strong westerly flow of maritime air continued to spread across the region. Stormy weather and widespread precipitation prevailed over winter grain areas in the west. Significant precipitation (10-50 mm, with local amounts in excess of 50 mm) spread from the United Kingdom and the Benelux countries southward through France into the Iberian Peninsula. The precipitation was accompanied by strong winds, especially in Scotland, Ireland, England, western France, and northern Spain. Continued wet weather in Portugal and southern Spain kept soils waterlogged. Light to moderate showers also spread eastward into Italy's Po Valley, maintaining favorable moisture conditions for winter wheat. Weekly temperatures averaged 2 to 4 degrees C above normal in western Europe. In eastern Europe, unseasonably mild weather was accompanied by generally light precipitation (2-20 mm, with local amounts in excess of 20 mm). Greatest amounts of precipitation (10-25 mm) fell as rain in southeastern Hungary, northwestern Yugoslavia, and western Romania, boosting soil moisture. Weekly temperatures in eastern Europe ranged from 4 to 7 degrees C above normal. Winter grain areas over most of Europe lacked a protective snow cover.



FSU-WESTERN

A westerly flow of air from Europe continued to usher in unseasonably mild weather to most winter grain areas. Weekly temperatures averaged 3 to 9 degrees C above normal over most of the region. Temperatures rose above freezing over most areas, with extreme maximum temperatures ranging from 5 to 11 degrees C in southern Ukraine and the North Caucasus region in Russia. The mild weather in these areas diminished protective snow cover, leaving winter wheat vulnerable to potential extreme cold. Maximum temperatures in the Baltics, Belarus, northern Russia, and northern Ukraine ranged from 1 to 4 degrees C, melting protective snow cover. Widespread precipitation covered the region, falling mostly in the form of rain in the west and south. The greatest amounts of moisture (10-33 mm) fell over extreme northern Russia, western and northern Ukraine, Belarus, and Lithuania.

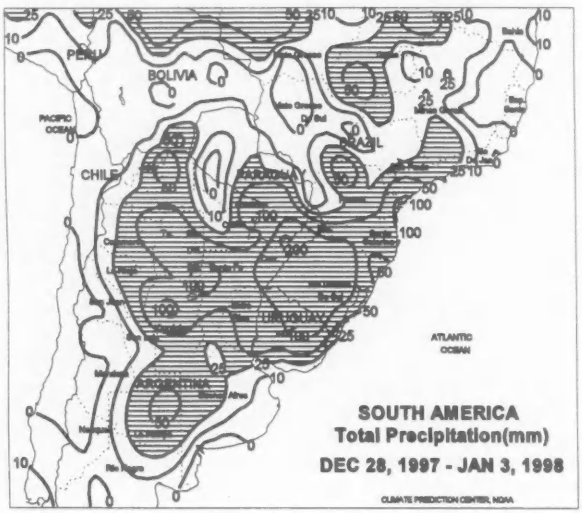


NORTHWESTERN AFRICA

Winter grains were in the vegetative stage over most of the region. Light precipitation (generally less than 10 mm) fell over winter grain areas in Algeria and Tunisia, maintaining favorable moisture conditions for winter grain development. In Morocco, widespread rain (10-50 mm) followed last week's generally dry weather pattern in southern areas, boosting soil moisture. Weekly temperatures averaged near normal over most of Morocco, Algeria, and Tunisia.

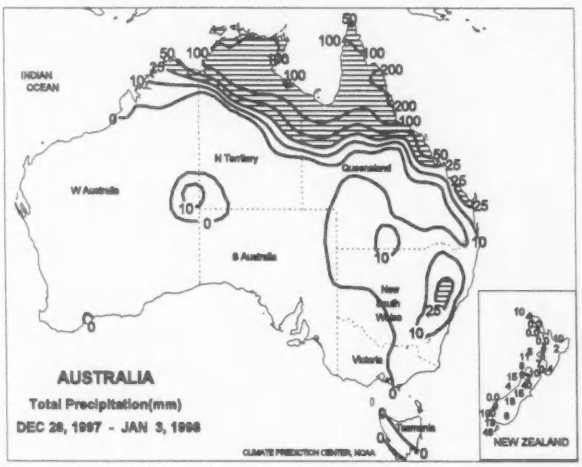
SOUTH AMERICA

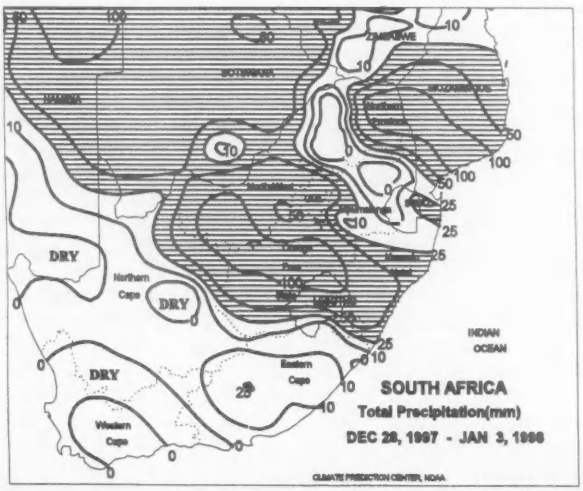
In southern Brazil, heavy showers (80-190 mm) boosted soil moisture levels for vegetative soybeans but caused some local field washouts. However, most of the soybean crop has already been planted, thus crop damage should be minimal. More moderate showers (25-50 mm, with isolated amounts greater than 100 mm) covered Parana and Sao Paulo, aiding vegetative soybeans. Lighter showers (less than 15 mm) limited soil moisture in Mato Grosso do Sul, where more rain is needed. Temperatures averaged slightly above normal (1-2 degrees C above normal) across southern Brazil. In central Argentina, moderate showers (18-53 mm) increased soil moisture for germinating to vegetative summer crops. Cool weather (temperatures 2-3 degrees C below normal) also favored summer crop development by reducing crop water use. In southern Buenos Aires, mostly dry weather aided winter wheat harvesting. According to reports as of December 19, corn in Argentina was 91 percent planted, soybeans 81 percent, sunflower 95 percent, sorghum 90 percent, and cotton 86 percent. Winter wheat was 34 percent harvested compared with 53 percent last year.



AUSTRALIA

Drier weather (just a few locations reporting rainfall of 10 mm or greater) returned to the main cotton and sorghum areas following about 3 weeks of highly beneficial shower activity. The sunnier skies favored development of vegetative crops as seasonable warmth (highs in the mid 30's C) maintained high crop moisture demands. The drier conditions extended into the southern sugarcane region, but locally heavy rainfall (25-100 mm or more) continued in the north, thanks to a broad band of tropical activity spanning northern Australia. In New Zealand, rainfall was generally light (4-15 mm, with isolated heavier amounts) in the main agricultural areas.



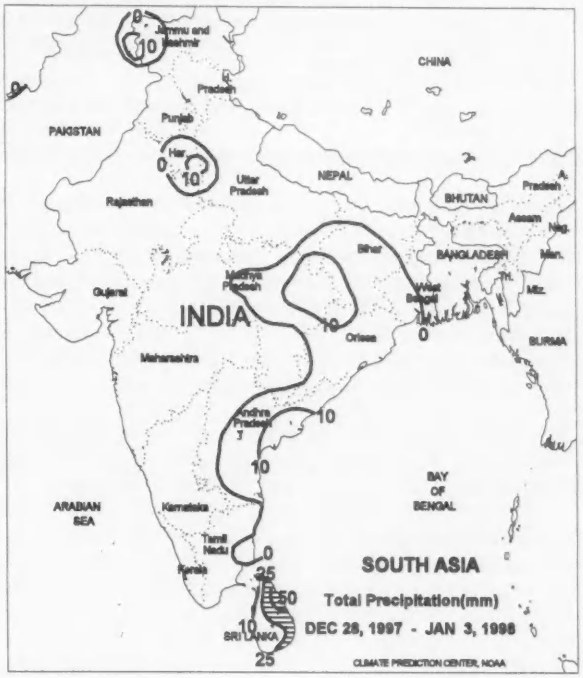


SOUTH AFRICA

Widespread, soaking rain covered the corn belt. Rainfall totaled 25 to 50 mm or more in most areas, with many drought-stricken sections of the west and south receiving more than 100 mm. The moisture was extremely beneficial for vegetative corn, and the magnitude of the event may spur some late plantings. However, corn planted this late in the season traditionally experiences lower yields, caused mainly by stress from summer heat and dryness. Moderate rain (25 mm or greater) fell in coastal sugarcane areas of Kwazulu-Natal, but drier conditions were dominant elsewhere. Temperatures across the region averaged near to below normal. In a few weeks, corn planted on schedule (mainly in the eastern corn belt) will enter the moisture-sensitive reproductive phases of development.

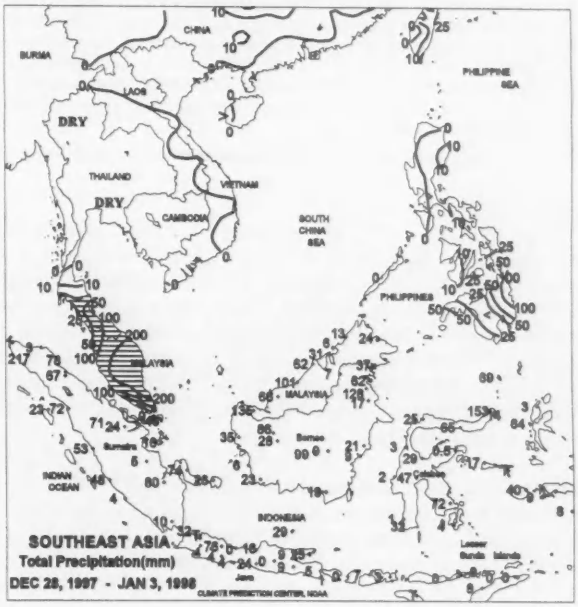
SOUTH ASIA

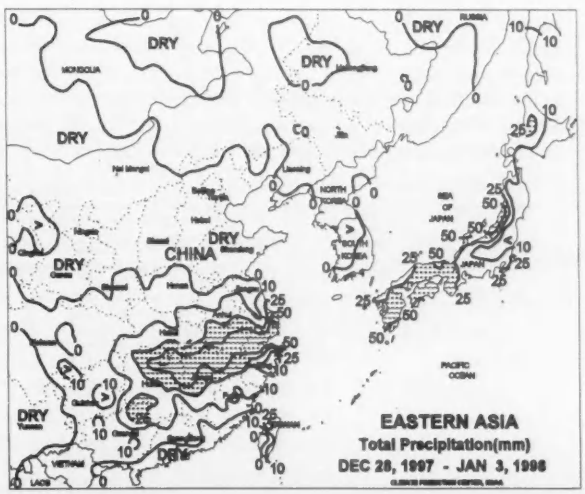
Unseasonable coolness continued to dominate a large section of the region from central India to Pakistan. Temperatures averaged 2 to 4 degrees C below normal, with sub-freezing lows reported at a few spots in the north. The current cool spell has delayed development of winter grains and oilseeds and slowed dry down of maturing cotton and other summer crops that had been unfavorably wet for much of autumn. However, 3 weeks of seasonable dryness have likely promoted widespread fieldwork activities.



SOUTHEAST ASIA

Scattered showers (10-75 mm) prevailed across southern Sumatra and Java, where rainfall has tapered off in the last 2 weeks. Continued showers are needed due to the late start of the rainy season. Sparse rainfall (less than 20 mm) worsened drought across the northern Philippines, stressing second-season crops. More seasonable rainfall (30-125 mm) was reported on the southern island of Mindanao. Very heavy showers (100-300 mm) caused flooding in peninsular Malaysia. Indochina was seasonably dry.





EASTERN ASIA

Winter wheat remained dormant across the North China Plain despite continued warm weather (temperatures averaged 3-6 C degrees C above normal). Widespread rainfall (10-70 mm) continued to benefit winter grains and oilseeds across the Yangtze Valley and interior southern China.

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(Continued from front cover)

The **East's** storm dumped heavy snow as far south as the **Carolinas**, where 5.2 inches fell in **Greensboro, NC**. Local totals in excess of 2 inches occurred as far south as **eastern Alabama** and **northern Georgia**. More than a foot, with isolated totals greater than 2 feet, fell from the **central Appalachians** to the **Adirondacks** and **Green Mountains**. December 29-31 snowfall reached 22 inches in **Pocahontas County, WV**, and 25 inches at both **Tupper Lake, NY** and **Jay, VT**. On Tuesday morning, wind gusts were clocked to 68 mph in **New Bedford, MA** and 59 mph on **Block Island, RI**.

Across the **East**, several daily-record lows were set or tied on New Year's Day, including -9°F in **Syracuse, NY**, 19°F in **Florence, SC**, and 47°F in **Hollywood, FL**. **Saranac Lake, NY** registered -33°F. Farther west, daily-record warmth spread onto the **northern Plains**, where Thursday's highs reached 56°F in **Bismarck, ND** and 60°F in **Billings, MT**. In **Minnesota, Rochester** notched their first of three daily-record highs (42, 45, and 41°F). A day earlier, daily records had been set in **Oregon** at **Redmond** (61°F) and **Gold Beach** (72°F).

By week's end, sharply colder air arrived across the **North Central States**. By Saturday, lows dipped to -22°F in **Glasgow, MT** and -30°F in **Williston, ND**. In **Spencer, IA**, the temperature plunged from a daily-record high (44°F) at midnight to 12°F just 15 hours later. The cold outbreak followed a record-warm December in **Grand Forks, ND**, where the average temperature of 23.7°F tied the mark set in 1959. In **Glasgow**, the mercury failed to fall below 0°F in December for the first time on record, while only 0.01 inch of precipitation fell. Meanwhile, **Houghton Lake, MI** (0.34 inch) wrapped up their driest December on record.

In advance of the Arctic front, record warmth continued and spread eastward. On Friday, daily records were set in locations such as **Alpena, MI** (50°F), **Rapid City, SD** (66°F), and **Valentine, NE** (68°F). A day later, record highs included 49°F in **Montpelier, VT**, 62°F in **Burlington, IA**, and 63°F in **Quincy, IL**. In **Wisconsin, Milwaukee's** maximum of 54°F on Saturday was their highest since November 1, 1997. A day earlier, **Chicago** marked their first of four consecutive highs at or above 50°F, only the seventh such occurrence in January during the 125-year period of record.

Only light rain fell across the **Gulf Coast States** during the week. Nevertheless, December 1997 was the wettest on record in **Florida** at **Jacksonville** (9.77 inches, 359 percent of normal), **Orlando** (12.63 inches, 587 percent), and **Tampa** (15.57 inches, 724 percent). In **Texas**, the month ranked as the second-wettest December in **Waco** (8.93 inches) and third-wettest in **Dallas-Ft. Worth** (6.93 inches). The wet month in **Texas** capped a year that featured record annual rainfall in **Victoria** (67.11 inches, 179 percent of normal), and annual precipitation among the 10 greatest on record for the third time this decade in **Dallas-Ft. Worth** (with 1991 and 1990) and **Austin** (with 1991 and 1992). Records date to 1898 in **Dallas** and 1856 in **Austin**. Farther north, **Williamsport, PA** received 29.63 inches of precipitation in 1997, 73 percent of normal, their second driest year on record and in sharp contrast to 1996, when the total of 54.01 inches was their second-highest on record.

Bitterly cold weather enveloped **Alaska** (except the southeast), where weekly temperatures ranged from 4 to 18°F below normal. A storm struck the west coast on December 31, dumping 14.0 inches of snow on **Nome**. In the **Aleutians, Cold Bay** netted a December-record snowfall of 30.2 inches. Meanwhile in the southeast, **Juneau's** monthly precipitation of 13.61 inches easily smashed their former December record of 9.89 inches.

Climate Prediction Center, W/NP52
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WEEKLY WEATHER AND CROP BULLETIN

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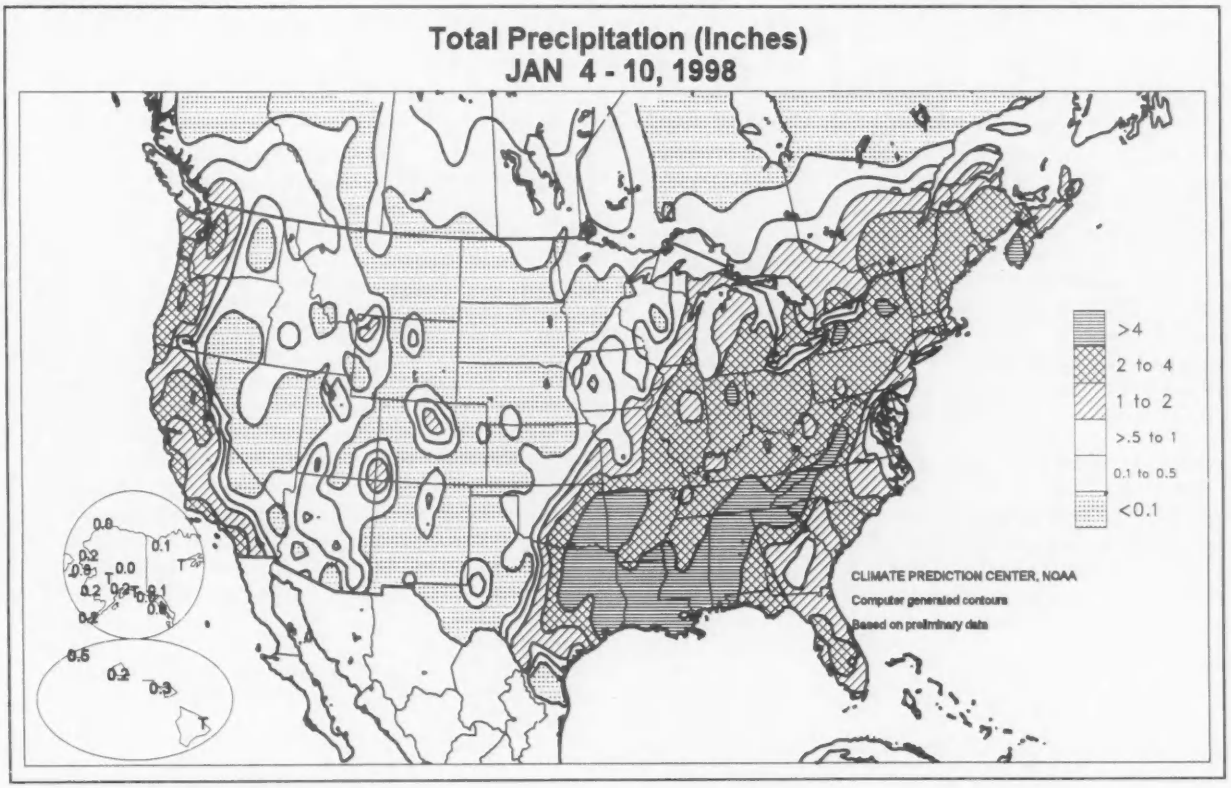
National Weather Service

U.S. DEPARTMENT OF AGRICULTURE
National Agricultural Statistics Service
and World Agricultural Outlook Board



HIGHLIGHTS

January 4 - 10, 1998

A large, slow-moving, moisture-rich storm produced an expansive area of precipitation in excess of 2 inches, from **eastern Texas** to **western Florida**, northeastward to **Lower Michigan** and **Maine**. A severe ice storm struck **northern New York** and **northern New England**, as rain fell through cold air entrenched at ground level. Snow fell on the storm's western fringe, from **northeastern Texas** to the **Great Lakes region**. Meanwhile, Arctic air tightened its grip on the **northern Plains**, holding weekly temperatures as much as 15°F below normal. At week's end, very cold air spread westward into the **Pacific Northwest**, setting the stage for snow and ice accumulations. Elsewhere in the **West**, rain and mountain snow arrived late in the week.

(Continued on page 3)

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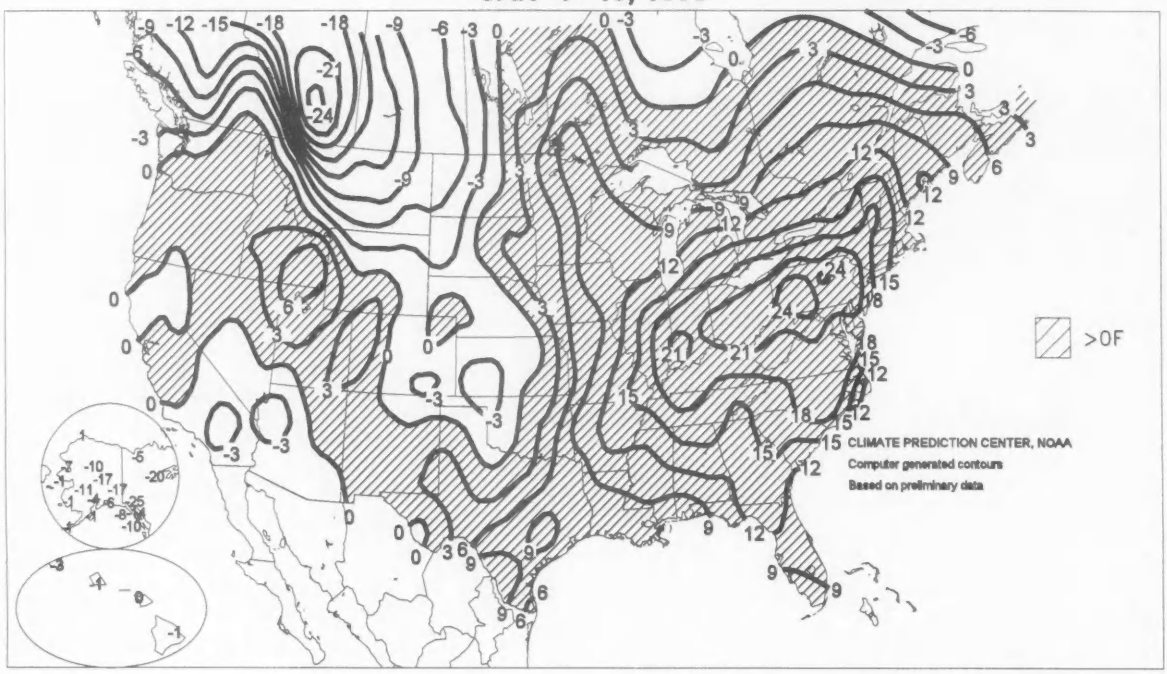
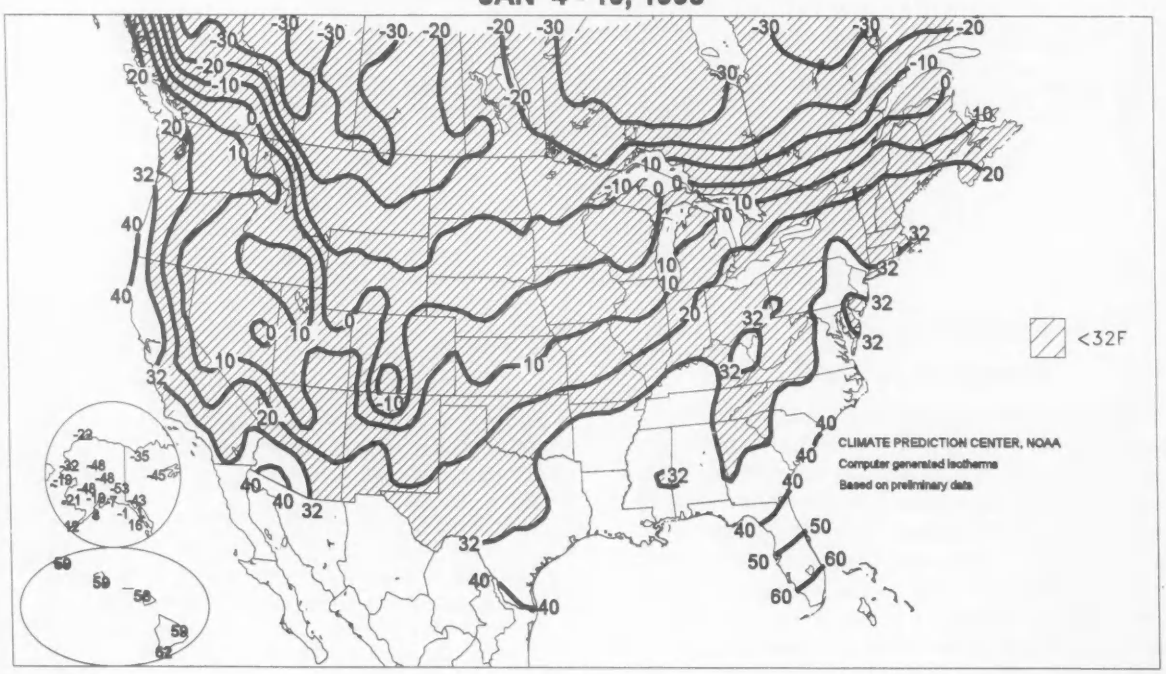
Departure of Average Temperature from Normal (°F)
JAN 4 - 10, 1998



Extreme Minimum Temperature (°F)
JAN 4 - 10, 1998



(Continued from front cover)

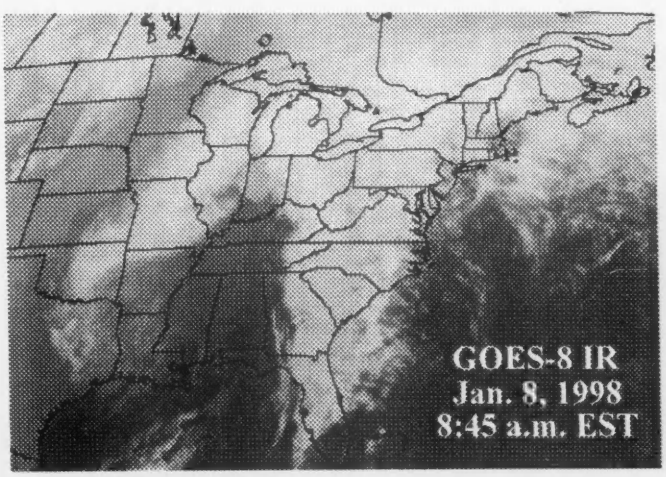
From January 4-9, nearly six dozen daily-record highs were established in the **eastern third of the Nation**, boosting weekly temperatures 7 to 27°F above normal. On Thursday, the high in **Binghamton, NY** reached 63°F, tying their monthly record set on January 25, 1967. More impressively, low temperatures remained at their highest January levels on record in **Lansing, MI** (48°F on Monday), **Tampa, FL** (70°F on Monday), and **Philadelphia, PA** (60°F on Thursday). In **Indiana, Indianapolis'** temperature remained above 50°F for 3 days (January 4-6), their third such January occurrence (January 2-4, 1997, and January 6-8, 1880). On January 8 in **Virginia**, lows of 65°F at **Dulles Airport** and 59°F in **Blacksburg** were higher than high-temperature records for the date (61°F and 58°F, respectively). Highs on Thursday reached 70°F as far north as **Newark, NJ**.

Farther north, a catastrophic ice storm struck areas from **northern New York** to **central and southern Maine**, and adjacent areas of **southeastern Canada**. In some areas, ice accumulated on parts of 6 days (January 4-9), with the heaviest rain occurring on January 7-8. Representative ice accumulations reached 2 to 3 inches in the **St. Lawrence and northern Champlain Valleys**, with similar totals observed across **northern New Hampshire** and **Maine**. According to media reports, as many as 350,000 American homes lost electricity. Specific storm-total precipitation in **northern Vermont** reached 6.25 inches on **Jay Peak**, 5.28 inches on **Mt. Mansfield**, and 4.20 inches in **Colchester**. In **northern New York, Malone** netted 4.16 inches. Locations in and near the freezing-rain zone also had to contend with flooding, as precipitation approached or exceeded January-record rates. Both **Buffalo, NY** (2.31 inches on January 7-8) and **Burlington, VT** (2.11 inches on January 8) posted 24-hour rainfall records for January. On Friday, a flow record of 11,000 cubic feet per second (cfs) was set on the **Hudson River** near **Newcomb, NY**, breaking the January 1949 record by 3,600 cfs. Records were also set along parts of **New York's Black River** (**Lake Ontario** drainage area).

Farther south, storm-total rainfall topped 4 inches in many areas from the **Arklatex region** and the **Delta** to the **central and southern Appalachians**. Resultant flooding left 10 people dead in the **Southeast**, according to media reports. In **western North Carolina**, January 8 rainfall exceeded 13 inches in parts of **Jackson County**, and storm-total precipitation topped 15 inches in a few locations. Elsewhere, daily-record rainfall totals occurred in locations such as **Oklahoma City, OK** (2.02 inches on Sunday), **Lansing, MI** (0.99 inch on Monday), **Lufkin, TX** (5.63 inches on Tuesday), and **Huntsville, AL** (3.55 inches on Wednesday). Heavy rain returned to **central Florida** on Thursday, where daily-record totals were established in **Daytona Beach** (1.52 inches) and **Melbourne** (1.21 inches). Snowfall on the storm's western fringe boosted month-to-date totals to 12.6 inches in **Milwaukee, WI**, 4.3 inches in **Springfield, MO**, and 3.0 inches in **Tulsa, OK**.

Cold air and moisture spread into the **Northwest** at week's end. By early Sunday morning (January 11), **Spokane, WA** reported a low of 2°F, while snow depths reached 2 inches in **Wenatchee, WA** and **Pendleton, OR**. Farther south, rainfall topped 2 inches in some locations from **western Oregon** into **northern California**, and along the **central and southern California coast**. Meanwhile, cold air also spread slowly southeastward across the **North Central States**. On Saturday, the minimum of 4°F in **Des Moines, IA** was their lowest since February 15, 1997. Meanwhile in **Marquette, MI**, the low dipped to -2°F, their first sub-zero reading of the winter and latest on record (formerly January 3, 1995). In **Glasgow, MT**, where the latest first sub-zero reading on record occurred on January 2, lows averaged -9°F for the week, including -27°F on Saturday.

Near the core of the Arctic air, weekly temperatures averaged as much as 17°F below normal in **interior Alaska**. On Sunday, **Fairbanks'** high of -42°F was their lowest since January 23, 1993. A day later, **Tanacross** reported a low of -63°F. Later in the week, heavy rain belted **southern Alaska**. In **Kodiak**, 6.58 inches fell on January 9-10, including a single-day, January-record total of 4.79 inches on Friday. Wet weather also prevailed in **Puerto Rico**, where **San Juan's** January 1-10 total reached 6.99 inches, in sharp contrast to their December total of 1.02 inches, second lowest on record.



A Day of Records, Oddities, and Damage: While snow is falling as far south as northeastern Texas and more than 20 Eastern cities are are on their way to daily-record highs, northern New England and southeastern Canada brace for their latest--and most severe--round of freezing rain. In addition, very heavy rain is pelting the eastern slopes of the Appalachians, where totals for this day will top 13 inches in parts of North Carolina's Jackson County.

National Weather Data for Selected Cities

Weather Data for the Week Ending January 10, 1998

Data Provided by Climate Prediction Center (301-763-8000 EXT. 7511)

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																	TEMP, °F		PRECIP.	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL, IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
AL	BIRMINGHAM	62	49	70	37	55	14	–	–	–	8.99	132	4.89	288	97	74	0	0	-	-
	HUNTSVILLE	60	48	68	39	54	15	4.54	3.32	3.55	7.83	102	4.54	258	94	75	0	0	5	2
	MOBILE	65	49	71	34	57	7	9.71	8.83	6.12	14.09	206	9.71	622	98	69	0	0	5	2
	MONTGOMERY	64	48	72	31	56	10	1.63	0.57	1.04	6.14	92	1.63	107	94	68	0	1	3	2
AK	ANCHORAGE	16	5	27	-10	10	-4	0.18	-0.01	0.18	1.98	145	0.33	118	81	64	0	7	1	0
	BARROW	-7	-17	-2	-22	-12	0	0.00	-0.03	0.00	0.08	50	0.00	0	80	75	0	7	0	0
	FAIRBANKS	-20	-34	8	-48	-27	-17	0.00	-0.12	0.00	2.05	203	0.00	0	78	68	0	7	0	0
	JUNEAU	16	4	19	1	10	-14	–	–	–	–	–	–	–	80	54	0	7	-	-
	KODIAK	32	25	38	8	29	-1	–	–	4.79	–	–	-	–	84	67	0	4	-	-
	NOME	13	0	30	-19	7	-1	0.77	0.58	0.35	1.72	152	0.77	275	80	63	0	7	3	0
AZ	FLAGSTAFF	37	12	43	-2	24	-4	0.93	0.45	0.45	3.12	101	1.27	184	84	54	0	7	4	0
	PHOENIX	60	43	65	38	52	-1	0.35	0.18	0.35	1.19	98	0.35	146	75	33	0	0	1	0
	PRESCOTT	44	25	48	19	35	-1	0.57	0.21	0.32	3.17	151	0.71	139	83	46	0	6	3	0
	TUCSON	60	37	64	30	48	-2	0.12	-0.10	0.12	3.00	217	0.12	39	75	34	0	2	1	0
	YUMA	64	48	68	42	55	-1	0.03	-0.05	0.02	2.82	466	0.03	25	67	35	0	0	2	0
AR	FORT SMITH	52	44	63	37	48	11	2.66	2.21	1.17	7.19	194	2.66	406	98	86	0	0	5	2
	LITTLE ROCK	58	47	67	37	52	13	2.78	1.96	–	6.53	113	2.78	253	94	80	0	0	5	1
CA	BAKERSFIELD	53	38	62	32	46	-1	0.52	0.35	0.24	1.79	208	0.69	298	98	72	0	2	3	0
	EUREKA	–	–	–	–	–	–	0.69	–	–	7.94	–	3.21	–	–	–	-	-	-	-
	FRESNO	53	40	59	32	46	2	0.74	0.31	0.36	1.84	91	0.89	146	98	70	0	2	5	0
	LOS ANGELES	61	48	63	40	55	-2	2.18	1.67	1.57	6.22	264	2.49	351	81	55	0	0	3	1
	REDDING	47	36	50	30	42	-3	1.10	-0.31	0.47	5.56	74	2.26	114	98	78	0	3	5	0
	SACRAM/MCCLELL	52	42	55	34	47	–	1.04	-9.99	0.68	4.28	–	1.83	-999	100	86	0	0	5	1
	SAN DIEGO	63	51	65	45	57	0	1.30	0.89	0.64	2.98	135	1.61	273	84	51	0	0	3	1
	SAN FRANCISCO	53	46	59	40	49	1	1.44	0.46	0.47	7.92	177	2.66	192	96	80	0	0	5	0
CO	ALAMOSA	29	-4	32	-14	12	-1	0.00	-0.06	0.00	0.19	35	0.00	0	92	60	0	7	0	0
	CO SPRINGS	41	15	48	10	28	0	0.00	-0.08	0.00	0.10	17	0.00	0	82	31	0	7	0	0
	DENVER	37	15	47	7	26	-3	0.00	-0.11	0.00	0.59	73	0.00	0	86	46	0	7	0	0
	GRAND JUNCTION	37	21	45	15	29	5	0.36	0.22	0.36	0.50	62	0.36	180	93	62	0	7	1	0
	PUEBLO	39	14	50	8	26	-3	0.16	0.08	0.10	0.60	111	0.22	183	91	56	0	7	2	0
CT	BRIDGEPORT	49	39	59	31	44	16	0.83	-0.12	0.46	3.98	87	0.83	58	83	57	0	1	6	0
	HARTFORD	47	35	58	30	41	16	1.35	0.56	0.76	3.53	70	1.35	117	90	83	0	1	5	1
DC	WASHINGTON	53	45	59	37	54	19	0.33	-0.30	0.13	2.07	51	0.33	36	93	67	0	0	4	0
DE	WILMINGTON	50	43	56	32	52	21	0.66	-0.05	0.43	3.22	71	0.66	64	87	53	0	1	4	0
FL	DAYTONA BEACH	75	60	81	47	67	9	1.57	0.97	1.52	9.34	273	1.57	185	99	71	0	0	3	1
	JACKSONVILLE	74	57	81	41	65	13	1.27	0.57	1.09	11.02	297	1.28	129	97	64	0	0	3	1
	KEY WEST	78	71	80	68	75	5	0.07	-0.40	0.06	4.49	167	0.07	11	94	78	0	0	2	0
	MIAMI	81	70	84	64	75	8	0.43	-0.01	0.24	5.70	230	0.44	70	96	69	0	0	4	0
	ORLANDO	77	62	84	49	69	9	1.09	0.60	0.95	13.72	481	1.09	158	97	68	0	0	5	1
	TAMPA	78	64	83	51	71	11	1.60	1.19	1.31	17.17	624	1.60	271	96	67	0	0	2	1
	VALPARAISO/EGLIN	67	54	72	36	60	8	0.46	-0.50	0.25	5.96	107	0.46	33	93	64	0	0	4	0
	WEST PALM BEACH	80	70	83	60	75	9	0.61	0.00	0.43	5.64	168	0.61	70	92	68	0	0	3	0
GA	ATHENS	64	49	70	31	57	15	1.88	0.84	1.66	7.79	140	1.88	128	96	69	0	1	4	1
	ATLANTA	62	49	68	32	55	14	2.08	1.02	1.67	7.14	122	2.08	136	95	58	0	1	5	1
	AUGUSTA	70	49	77	32	60	16	0.95	0.06	0.55	7.89	169	0.95	75	93	61	0	1	5	1
	COLUMBUS	65	52	72	35	59	13	1.19	0.13	0.90	7.91	122	1.19	78	96	70	0	0	3	1
	MACON	67	50	74	34	58	13	1.11	0.09	1.02	8.39	146	1.11	76	95	65	0	0	2	1
	SAVANNAH	69	54	76	35	62	13	0.91	0.10	0.63	4.90	119	0.91	79	97	71	0	0	5	1
HI	HILO	80	62	82	59	71	-1	0.02	-2.29	0.01	8.94	58	0.09	3	88	57	0	0	2	0
	HONOLULU	81	63	85	58	72	-1	0.24	-0.63	0.23	0.91	18	0.47	35	88	54	0	0	2	0
	KAHULUI	81	63	83	58	72	0	0.31	-0.64	0.31	1.83	40	0.33	24	91	57	0	0	1	0
	LIHUE	76	61	78	59	69	-3	0.46	-0.96	0.43	5.71	80	3.12	156	86	55	0	0	3	0
ID	BOISE	39	27	46	19	33	5	0.86	0.33	0.57	1.46	80	0.81	172	86	49	0	5	2	1
	LEWISTON	40	30	50	22	35	2	0.24	-0.06	0.20	0.92	56	0.32	74	84	58	0	5	2	0
	POCATELLO	35	23	46	16	29	7	0.39	0.14	0.33	1.13	78	0.46	131	83	67	0	7	3	0
IL	CHICAGO/O'HARE	40	29	56	7	35	14	1.81	1.41	0.83	3.75	123	2.26	390	93	82	0	3	6	1
	MOLINE	37	27	52	8	32	12	1.06	0.66	0.75	3.45	123	1.69	291	93	82	0	3	4	1
	PEORIA	42	32	56	9	37	15	2.18	1.79	0.78	4.18	139	2.24	393	93	83	0	3	5	1
	ROCKFORD	38	26	53	3	32	13	1.18	0.86	0.40	2.23	88	1.40	292	94	81	0	4	5	0
	SPRINGFIELD	44	36	57	14	40	16	2.02	1.63	0.58	3.77	114	2.02	348	94	84	0	3	5	1
IN	EVANSVILLE	55	44	67	31	50	19	1.67	1.04	0.63	4.04	88	1.70	185	92	76	0	1	5	1
	FORT WAYNE	48	40	57	20	44	21	2.54	2.07	0.87	5.04	141	3.31	480	94	82	0	2	6	3
	INDIANAPOLIS	51	41	66	21	46	20	1.82	1.25	0.76	3.20	77	1.66	224	93	76	0	2	4	1
	SOUTH BEND	46	34	56	13	40	16	2.70	2.22	0.79	5.42	131	3.33	401	94	84	0	3	6	3
IA	BURLINGTON	–	–	–	–	–	–	1.53	1.21	–	3.27	133	1.75	372	–	–	-	-	-	-
	CEDAR RAPIDS	–	–	–	–	–	–	0.44	0.18	–	1.61	82	0.45	118	–	–	-	-	-	-
	DES MOINES	32	21	37	4	26	7	0.36	0.13	0.34	1.72	104	0.36	109	94	77	0	7	2	0
	DUBUQUE	31	22	37	1	27	11	0.58	0.27	0.30	1.69	70	0.61	133	93	84	0	7	3	0
	SIOUX CITY	27	16	31	1	21	4	0.00	-0.14	0.00	0.21	21	0.00	0	91	71	0	7	0	0
	WATERLOO	30	22	36	3	26	12	0.28	0.09	0.25	0.93	58	0.28	97	90	78	0	7	2	0
KS	CONCORDIA	28	20	32	11	24	-2	0.15	0.01	0.15	1.90	183	0.15	75	96	75	0	7	1	0
	DODGE CITY	31	19	40	8	25	-4	0.01	-0.10	0.01	2.83	325	0.04	25	93	70	0	7	1	0
	GOODLAND	35	16	48	9	25	-3	0.00	-0.09	0.00	0.54	100	0.00	0	90	57	0	7	0	0
	TOPEKA	32	26	38	13	29	2	0.52	0.26	0.52	2.93	166	0.52	153	94	76	0	6	1	1

Based on 1961-90 normals

Weather Data for the Week Ending January 10, 1998

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																	TEMP, °F		PRECIP.	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL, IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
	WICHITA	33	25	39	14	29	0	0.50	0.31	0.50	3.17	214	0.52	179	95	82	0	7	1	1
KY	JACKSON	60	47	70	33	54	20	1.99	1.11	1.10	4.20	74	1.99	157	90	62	0	0	5	1
	LEXINGTON	57	46	66	32	52	20	2.77	2.08	1.44	5.45	109	2.77	277	92	74	0	1	5	3
	LOUISVILLE	57	46	67	34	52	20	2.05	1.38	1.25	4.57	99	2.06	212	93	64	0	0	5	1
	PADUCAH	55	45	68	32	50	17	1.88	1.10	0.75	4.35	75	1.90	167	93	77	0	1	4	2
LA	BATON ROUGE	64	49	71	34	56	7	6.06	4.95	3.58	12.38	174	6.06	379	100	74	0	0	5	3
	LAKE CHARLES	66	49	76	33	57	7	5.54	4.46	3.31	11.26	170	5.54	355	98	74	0	0	4	2
	NEW ORLEANS	66	52	74	37	59	7	8.77	7.64	4.70	11.34	154	8.78	539	98	78	0	0	5	3
	SHREVEPORT	59	48	70	38	54	9	3.28	2.40	2.46	9.38	175	3.28	260	95	80	0	0	5	1
ME	CARIBOU	24	11	42	-3	17	8	1.99	1.40	0.77	4.81	118	2.01	231	92	77	0	7	7	2
	PORTLAND	38	28	50	24	33	11	2.96	2.12	1.48	5.53	96	2.96	243	96	75	0	7	4	2
MD	BALTIMORE	63	43	68	31	53	21	0.29	-0.41	0.14	2.34	53	0.29	29	93	65	0	1	3	0
MA	BOSTON	47	36	57	32	41	12	1.58	0.75	0.76	3.90	75	1.58	133	95	84	0	1	5	1
	WORCESTER	42	32	53	28	37	14	1.64	0.79	0.75	3.96	75	1.64	133	99	86	0	6	5	1
MI	ALPENA	34	24	38	8	29	11	1.67	1.26	0.49	2.44	93	1.71	295	98	77	0	7	7	0
	GRAND RAPIDS	43	32	53	15	38	15	1.99	1.52	0.78	3.47	98	2.49	361	98	86	0	5	7	1
	HOUGHTON LAKE	36	25	47	8	30	13	1.37	1.00	0.49	1.77	71	1.43	265	98	83	0	5	7	0
	LANSING	44	34	54	17	39	17	2.25	1.87	0.99	3.41	118	2.52	450	96	84	0	5	6	1
	MARQUETTE	--	--	--	--	--	--	1.39	0.86	--	3.86	114	1.46	190	--	--	-	-	-	-
	MUSKEGON	41	31	54	13	36	12	1.74	1.15	0.57	3.04	78	1.82	212	95	76	0	4	6	1
MN	DULUTH	22	11	29	-11	17	10	0.16	-0.14	0.09	0.56	33	0.16	37	92	81	0	7	3	0
	INT'L FALLS	18	5	25	-16	11	10	0.34	0.12	0.12	0.59	51	0.36	116	89	77	0	7	4	0
	MINNEAPOLIS	27	15	36	-5	21	9	0.16	-0.04	0.16	0.49	35	0.16	58	84	69	0	7	3	0
	ROCHESTER	26	17	32	-3	21	10	0.36	0.19	0.36	0.76	58	0.36	136	91	81	0	7	1	0
	ST. CLOUD	23	8	31	-10	16	8	0.03	-0.14	0.02	0.26	24	0.03	12	88	73	0	7	2	0
MS	JACKSON	62	47	72	32	55	11	3.46	2.22	1.76	9.23	120	3.46	193	96	74	0	1	5	3
	MERIDIAN	62	46	72	30	54	9	6.66	5.45	4.26	11.38	148	6.66	383	96	71	0	1	4	2
	TUPELO	58	48	69	39	53	13	3.02	1.84	1.38	6.74	86	3.02	177	96	77	0	0	6	2
MO	COLUMBIA	42	31	58	14	37	9	1.19	0.83	0.42	2.97	99	1.20	226	93	79	0	2	6	0
	KANSAS CITY	34	26	40	11	30	4	0.39	0.12	0.38	2.76	139	0.43	107	90	76	0	6	2	0
	SAINT LOUIS	47	30	59	18	43	13	2.41	1.96	0.87	4.26	115	2.41	360	95	83	0	2	5	2
	SPRINGFIELD	44	36	59	19	40	9	2.30	1.85	1.39	5.46	143	2.32	346	99	91	0	3	6	1
MT	BILLINGS	26	6	43	-9	16	-6	0.06	-0.16	0.06	0.63	58	0.06	19	80	53	0	7	1	0
	BUTTE	27	3	42	-20	15	-1	0.24	0.10	0.11	0.43	64	0.28	140	86	50	0	7	4	0
	GLASGOW	10	-9	35	-27	0	-10	0.09	0.01	0.09	0.21	39	0.20	125	83	64	0	7	1	0
	GREAT FALLS	17	-2	38	-18	7	-13	0.13	-0.09	0.11	0.53	46	0.20	65	82	59	0	7	2	0
	KALISPELL	28	15	38	-4	21	1	0.13	-0.24	0.09	0.83	37	0.26	48	85	59	0	7	2	0
	MILES CITY	23	1	44	-13	12	-3	0.12	-0.02	0.10	0.17	21	0.16	80	82	52	0	7	2	0
	MISSOULA	30	16	40	4	23	2	0.41	0.11	0.33	1.00	63	0.67	156	85	65	0	7	2	0
NE	GRAND ISLAND	28	14	32	0	20	-1	0.00	-0.11	0.00	0.41	47	0.00	0	87	71	0	7	0	0
	LINCOLN	28	17	33	2	22	1	0.09	-0.05	0.06	0.82	76	0.09	45	96	73	0	7	2	0
	NORFOLK	25	15	30	3	20	1	0.04	-0.08	0.04	0.41	45	0.04	22	88	67	0	7	1	0
	NORTH PLATTE	36	8	53	-2	21	0	0.02	-0.06	0.02	0.22	38	0.02	17	88	52	0	7	1	0
	OMAHA	29	19	33	4	24	3	0.33	0.14	--	0.82	62	0.33	110	90	72	0	7	-	-
	SCOTTSBLUFF	37	11	49	0	24	0	0.08	-0.03	0.05	0.39	53	0.08	50	86	45	0	7	3	0
	VALENTINE	33	4	50	-9	19	0	0.00	-0.06	0.00	0.03	7	0.00	0	83	47	0	7	0	0
NV	ELY	37	12	41	-5	24	0	0.06	-0.11	0.04	0.28	29	0.06	25	81	48	0	7	2	0
	LAS VEGAS	51	35	60	30	43	-1	0.19	0.08	0.10	0.26	50	0.19	119	60	32	0	4	2	0
	RENO	41	24	49	12	33	1	0.06	-0.19	0.04	0.84	63	0.26	74	88	52	0	6	2	0
	WINNEMUCCA	40	17	47	5	29	0	0.42	0.24	0.31	0.68	59	0.43	165	94	63	0	6	4	0
NH	CONCORD	39	31	49	24	35	16	1.61	1.02	0.92	3.56	89	1.61	189	94	80	0	5	5	1
NJ	NEWARK	60	43	70	37	51	20	1.49	0.71	1.15	5.66	124	1.49	133	86	64	0	0	4	1
NM	ALBUQUERQUE	46	26	49	21	36	3	0.04	-0.07	0.04	1.04	160	0.04	25	82	40	0	7	1	0
NY	ALBANY	44	34	54	28	39	18	1.96	1.39	0.62	3.46	93	1.99	248	95	90	0	2	6	2
	BINGHAMTON	53	41	63	31	47	25	2.02	1.45	0.91	4.84	127	2.03	245	98	85	0	1	5	2
	BUFFALO	46	33	61	27	40	15	3.38	2.71	2.31	6.58	142	3.62	377	96	78	0	3	7	2
	ROCHESTER	48	34	65	29	41	17	3.61	3.12	1.53	6.68	194	3.81	529	98	77	0	3	7	2
	SYRACUSE	47	35	59	30	41	18	2.30	1.73	1.07	6.50	162	2.39	288	95	75	0	1	6	2
NC	ASHEVILLE	59	42	66	28	51	15	4.92	4.20	4.50	7.90	173	4.92	478	94	71	0	2	5	1
	CHARLOTTE	67	50	72	37	59	19	1.26	0.43	0.60	5.34	115	1.26	107	91	59	0	0	3	1
	GREENSBORO	63	46	68	31	55	18	2.44	1.72	0.87	4.61	105	2.44	237	93	64	0	1	3	3
	HATTERAS	59	47	62	42	53	8	0.29	-0.92	0.26	5.94	95	0.29	17	97	76	0	0	3	0
	RALEIGH	67	47	71	31	57	18	1.18	0.41	0.86	3.93	91	1.18	107	95	64	0	1	3	1
	WILMINGTON	70	51	76	38	60	15	1.91	1.03	1.38	6.75	138	1.91	152	95	66	0	0	5	1
ND	BISMARCK	17	-1	36	-13	8	-1	0.00	-0.11	0.00	0.08	12	0.00	0	80	61	0	7	0	0
	DICKINSON	19	-2	43	-19	8	-5	0.01	-0.07	0.01	0.04	8	0.01	8	80	53	0	7	1	0
	FARGO	17	4	27	-15	11	5	0.27	0.10	0.26	0.71	62	0.27	112	88	75	0	7	2	0
	GRAND FORKS	14	1	23	-10	8	3	0.00	-0.17	0.00	0.72	62	0.16	67	87	75	0	7	0	0
	JAMESTOWN	13	1	23	-16	7	-1	0.04	-0.10	0.02	0.33	48	0.06	30	96	81	0	7	2	0
	WILLISTON	9	-13	28	-23	-2	-10	0.00	-0.14	0.00	0.07	9	0.05	25	83	67	0	7	0	0
OH	AKRON-CANTON	52	40	61	27	46	21	2.85	2.33	1.11	4.94	133	2.87	378	97	80	0	1	7	2
	CINCINNATI	56	43	64	27	50	21	2.46	1.85	1.80	5.28	131	2.50	284	93	77	0	1	5	1
	CLEVELAND	53	41	62	26	47	21	2.93	2.43	1.48	5.41	142	2.97	407	93	72	0	1	6	2
	COLUMBUS	56	44	66	29	49	23	1.76	1.24	1.03	3.96	109	1.82	239	94	75	0	1	5	1
	DAYTON	54	42	61	23	48	21	2.72	2.20	1.71	4.91	133	2.76	368	93	74	0	1	6	2
	MANSFIELD	52	40	61	26	46	21	2.48	1.96	1.27	4.80	126	2.48	344	91	79	0	2	6	1

Based on 1961-90 normals

Weather Data for the Week Ending January 10, 1998

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																	TEMP, °F		PRECIP.	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL, IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
	TOLEDO	47	37	57	20	42	19	2.10	1.65	0.65	4.35	121	2.27	344	96	81	0	1	5	3
	YOUNGSTOWN	52	42	61	28	47	23	3.37	2.85	1.20	6.08	165	3.38	445	96	79	0	1	7	3
OK	OKLAHOMA CITY	40	32	62	27	36	0	2.15	1.90	2.02	4.41	249	2.40	649	99	89	0	4	2	1
	TULSA	41	33	60	25	37	2	2.67	2.31	1.29	6.98	260	2.68	515	98	88	0	3	6	1
OR	ASTORIA	46	37	50	32	41	0	3.11	0.74	1.19	13.41	96	4.96	146	98	79	0	2	6	3
	BURNS	35	16	39	7	25	3	0.31	0.06	0.14	1.31	87	0.41	114	98	68	0	7	4	0
	EUGENE	45	36	49	30	40	0	0.79	-1.11	0.44	3.85	34	1.62	59	88	75	0	1	5	0
	MEDFORD	46	34	52	27	40	3	0.56	-0.10	0.29	2.69	63	1.34	140	94	70	0	2	5	0
	PENDLETON	40	29	50	20	35	2	0.41	0.05	0.29	1.56	73	0.51	100	82	60	0	5	2	0
	PORTLAND	43	36	48	30	40	1	1.57	0.27	0.49	5.15	64	2.12	113	95	77	0	2	5	0
	SALEM	43	35	47	27	39	0	1.19	-0.24	0.39	4.88	55	1.71	83	90	72	0	3	4	0
PA	ALLENTOWN	58	40	67	32	49	22	1.12	0.38	0.65	3.48	77	1.12	106	92	78	0	1	4	1
	ERIE	50	39	63	30	45	18	3.30	2.75	1.54	8.59	195	3.73	480	96	80	0	1	7	2
	MIDDLETOWN	60	43	68	31	51	22	1.65	0.99	0.94	3.66	88	1.65	183	95	70	0	2	4	1
	PHILADELPHIA	62	44	69	33	53	22	0.78	0.04	0.51	3.87	87	0.78	73	93	65	0	0	4	1
	PITTSBURGH	57	44	64	31	51	24	2.72	2.12	1.34	4.02	107	2.73	314	91	68	0	1	6	2
	SCRANTON	58	48	66	40	53	28	1.75	1.26	0.66	4.00	124	1.75	250	87	65	0	0	5	2
	WILLIAMSPORT	52	41	61	31	45	19	0.48	-0.10	0.23	1.94	50	0.48	57	93	70	0	1	5	0
RI	PROVIDENCE	49	37	61	31	43	15	1.94	1.03	0.82	4.77	84	1.94	148	98	71	0	1	4	2
SC	BEAUFORT	67	53	72	37	60	11	1.03	0.18	0.54	4.96	113	1.03	86	96	76	0	0	4	1
	CHARLESTON	70	54	75	38	62	14	1.58	0.80	1.01	6.76	159	1.58	142	98	67	0	0	4	1
	COLUMBIA	69	50	77	32	59	15	1.67	0.89	1.16	6.06	122	1.67	119	98	69	0	1	3	1
	GREENVILLE	63	47	69	33	55	15	2.38	1.45	2.00	6.63	121	2.38	179	96	67	0	0	4	1
SD	ABERDEEN	20	6	28	-9	13	3	0.04	-0.04	0.04	0.22	42	0.04	33	87	73	0	7	1	0
	HURON	23	10	32	-4	17	4	0.01	-0.07	0.01	0.23	40	0.01	8	85	69	0	7	1	0
	RAPID CITY	29	6	48	-4	17	-4	0.00	-0.08	0.00	0.08	13	0.00	0	77	44	0	7	0	0
	SIOUX FALLS	24	12	30	-4	18	5	0.03	-0.09	0.02	0.28	32	0.03	17	91	74	0	7	2	0
TN	BRISTOL	61	39	69	27	50	16	1.52	0.78	1.17	3.69	83	1.52	143	96	68	0	3	3	1
	CHATTANOOGA	61	45	69	30	53	16	3.99	2.86	2.59	7.29	107	3.99	246	94	71	0	1	4	2
	KNOXVILLE	60	41	71	29	51	15	1.11	0.14	1.00	3.48	59	1.11	79	96	68	0	2	4	1
	MEMPHIS	57	48	71	35	52	13	3.83	2.92	2.10	8.36	118	3.83	266	94	77	0	0	6	3
	NASHVILLE	59	48	69	37	54	17	2.03	1.18	1.57	4.23	72	2.03	165	92	71	0	0	5	1
TX	ABILENE	53	35	66	28	44	2	0.14	-0.06	0.05	3.30	246	0.14	45	94	64	0	3	5	0
	AMARILLO	47	24	59	17	36	1	0.12	0.01	0.12	2.79	489	0.67	419	92	49	0	7	1	0
	AUSTIN	66	50	76	35	58	9	1.53	1.17	1.31	5.84	243	1.58	304	95	62	0	0	4	1
	BEAUMONT	66	51	77	35	59	8	3.03	1.90	2.08	9.65	151	3.03	188	98	76	0	0	4	2
	BROWNSVILLE	76	55	80	39	65	6	0.02	-0.34	0.01	0.58	33	0.13	26	93	58	0	0	2	0
	CORPUS CHRISTI	74	53	79	36	64	8	0.29	-0.07	0.23	0.54	31	0.34	69	92	57	0	0	3	0
	DEL RIO	68	42	76	31	55	5	0.02	-0.09	0.02	0.61	78	0.03	19	89	43	0	1	1	0
	EL PASO	56	34	61	26	45	3	0.04	-0.06	0.03	1.46	196	0.04	27	78	36	0	2	2	0
	FORT WORTH	52	41	68	31	47	3	4.33	3.92	3.15	11.29	485	4.36	765	98	85	0	1	5	2
	GALVESTON	64	53	70	43	59	6	4.17	3.39	3.00	9.45	203	4.56	404	95	83	0	0	4	2
	HOUSTON	67	49	77	33	58	8	3.41	2.65	2.29	8.83	194	3.41	313	96	65	0	0	4	2
	LUBBOCK	54	28	61	18	41	2	0.00	-0.08	0.00	1.75	269	0.00	0	87	37	0	5	0	0
	MIDLAND	60	32	65	26	46	4	0.01	-0.07	0.01	1.36	197	0.01	8	88	35	0	4	1	0
	SAN ANGELO	57	37	69	29	47	4	0.03	-0.14	0.03	1.41	140	0.03	12	90	49	0	4	1	0
	SAN ANTONIO	66	49	72	35	57	8	1.08	0.72	0.96	4.70	234	1.14	219	89	62	0	0	3	1
	VICTORIA	72	50	77	37	61	8	0.41	-0.08	0.39	2.19	80	0.56	81	96	60	0	0	3	0
	WACO	59	44	72	29	52	7	5.79	5.43	3.02	15.72	663	5.91	1159	97	75	0	1	5	2
	WICHITA FALLS	46	33	62	25	40	0	1.06	0.86	0.62	5.34	334	1.22	381	98	83	0	3	4	1
UT	SALT LAKE CITY	42	22	51	13	32	5	0.39	0.13	0.37	1.15	54	0.51	134	92	62	0	6	2	0
VT	BURLINGTON	39	27	45	19	33	16	2.43	1.99	2.11	4.13	136	2.48	388	96	81	0	6	6	1
VA	LYNCHBURG	63	42	67	27	53	18	2.03	1.37	0.79	4.75	113	2.03	216	97	61	0	3	3	3
	NORFOLK	68	50	75	39	59	19	0.08	-0.79	0.06	2.71	61	0.08	5	93	63	0	0	1	0
	RICHMOND	65	47	71	32	56	20	0.85	0.11	0.78	3.21	74	0.85	80	95	65	0	1	2	1
	ROANOKE	62	42	67	33	52	17	2.33	1.74	1.49	4.70	123	2.33	274	90	49	0	0	3	2
	WASH/DULLES	64	44	69	29	54	23	0.45	-0.18	0.24	2.37	58	0.45	49	97	68	0	2	4	0
WA	HANFORD	43	28	52	19	36	-	0.13	-0.02	0.12	0.55	44	0.24	114	81	50	0	6	2	0
	OLYMPIA	41	31	45	22	36	-1	2.29	0.40	1.44	9.52	88	3.36	124	99	72	0	3	5	2
	QUILLAYUTE	39	30	45	22	35	-5	1.68	-1.67	0.59	17.87	88	2.36	49	99	76	0	4	5	2
	SEATTLE-TACOMA	40	33	45	24	37	-3	1.52	0.23	0.74	4.84	82	2.22	120	93	65	0	3	4	1
	SPOKANE	32	21	38	7	26	0	0.14	-0.34	0.08	1.24	40	0.24	34	93	69	0	6	4	0
	YAKIMA	38	21	47	11	30	1	0.00	-0.30	0.00	0.50	27	0.31	74	87	61	0	7	0	0
WV	BECKLEY	56	41	63	25	49	19	1.03	0.35	0.77	3.23	77	1.03	106	92	70	0	2	4	1
	CHARLESTON	62	44	69	32	53	20	1.23	0.56	0.76	2.81	85	1.24	128	89	65	0	1	4	1
	ELKINS	50	35	66	24	47	19	1.93	1.21	0.84	4.46	96	1.93	186	96	68	0	3	4	1
	HUNTINGTON	61	47	70	37	54	21	2.55	1.89	1.35	4.11	96	2.55	266	88	62	0	0	5	2
WI	EAU CLAIRE	28	17	34	-5	22	11	0.44	0.19	0.31	0.89	48	0.44	126	92	78	0	7	5	0
	GREEN BAY	29	21	33	-3	25	10	0.98	0.70	0.42	1.80	82	0.99	241	93	79	0	7	4	0
	MADISON	31	22	37	1	26	10	1.18	0.90	0.58	2.43	108	1.18	288	92	81	0	7	5	1
	MILWAUKEE	36	25	53	3	30	11	1.66	1.26	0.59	3.07	105	1.76	298	95	80	0	5	6	1
WY	CASPER	28	11	43	-10	20	-2	0.02	-0.12	0.02	0.98	114	0.02	10	83	59	0	7	1	0
	CHEYENNE	36	13	47	2	25	-1	0.07	-0.01	0.06	0.66	125	0.07	58	83	43	0	7	2	0
	LANDER	27	9	33	0	18	-1	0.00	-0.11	0.00	1.85	257	0.00	0	90	60	0	7	0	0
	SHERIDAN	27	6	41	-9	16	-4	0.00	-0.17	0.00	0.78	80	0.00	0	88	66	0	7	0	0

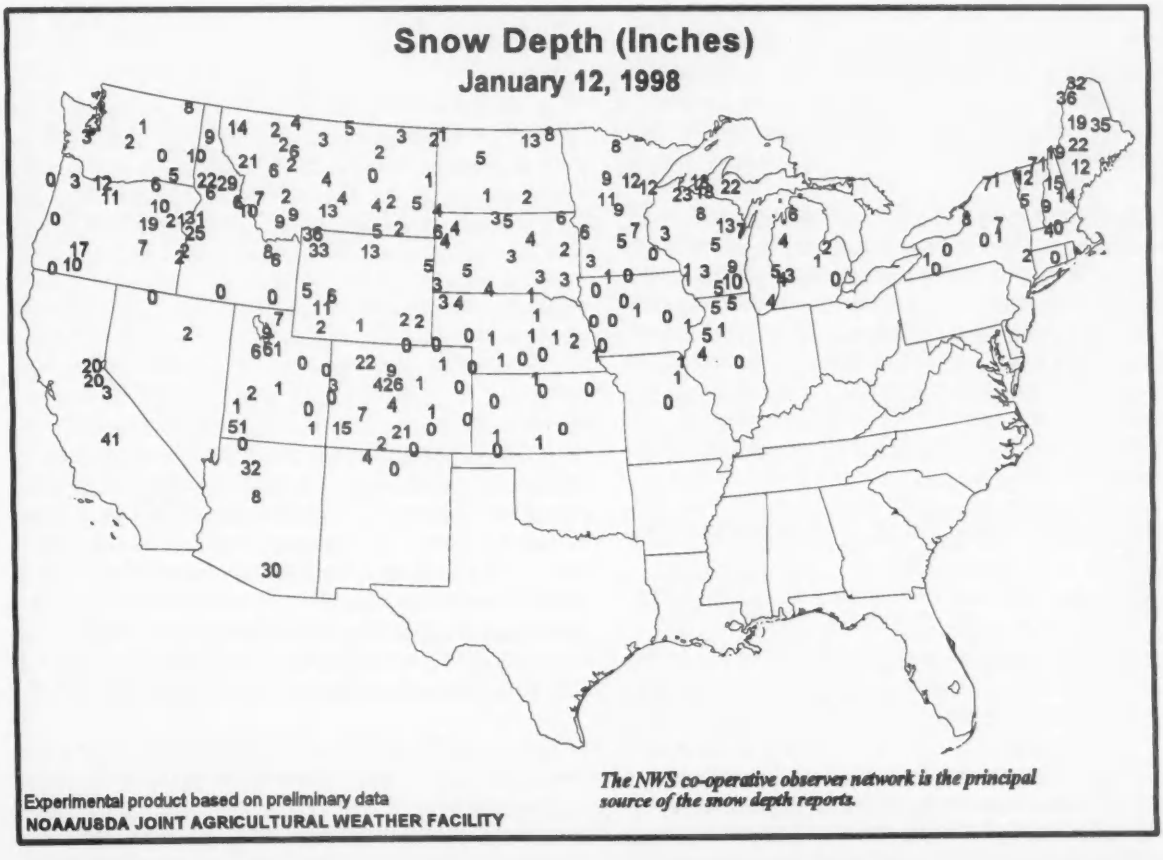
NOTE: These data are preliminary and subject to change. In the past, precipitation totals from a number of stations have been incomplete.

National Agricultural Summary

January 5 - 11, 1998

HIGHLIGHTS

Storms brought rain and snow to an area extending from Texas to the Great Lakes and eastward. A severe ice storm in New York and the New England States halted farming activities across the region and stressed livestock. Very mild temperatures reduced the effects of the storms in most other Eastern areas. Wet, muddy fields in Florida slowed vegetable fieldwork. Despite warm, wet, windy conditions, citrus harvest was active. Heavy rainfall caused localized flooding in several Southeastern States. In Texas, field activity was limited due to saturated fields. Small grain fields in the southern High Plains received plenty of beneficial snow and rainfall, but sunshine was needed to promote growth. Cool, wet weather hindered late cotton harvest in Oklahoma. The Plains and Intermoutain Region were generally dry, especially the northern Plains, which has remained dry for over 3 months. Bitterly cold air edged into Montana and North Dakota, but there was no indication of damage to the winter wheat crop. Field activities resumed in some areas of California early in the week but were halted again by rains at week's end.


Snow Depth (Inches)
January 12, 1998
Experimental product based on preliminary data
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
The NWS co-operative observer network is the principal source of the snow depth reports.

December Weather and Crop Summary

Weather

The Nation's weather patterns locked into a classic El Niño signature, featuring a split jet stream and an active storm track across the South. Monthly temperatures ranged from 5 to 15°F above normal across the North Central States, but as much as 3°F below normal in the Southeast. Heavy snow helped to suppress temperatures in the southern Rockies and southern Plains, where departures ranged from -2 to -9°F. December-record rainfall drenched central and northeastern Florida, while near-record totals soaked parts of Texas. Snow occasionally fell into the Deep South. Farther north, however, the northern Plains' dry spell stretched to 3 months and the Northwest's drying trend persisted for a second consecutive month. California escaped any serious effects from El Niño-related storminess, although precipitation averaged above normal across southern and central-coastal sections.

In Texas, Waco's rainfall totaled 7.98 inches on December 20, breaking their 24-hour record of 7.18 inches set on May 11-12, 1953. On December 23-24, the next storm to emerge from the Southwest dumped 11.6 inches of snow on Dodge City, KS, eclipsing their 24-hour December record (11.4 inches) that had stood since 1923. A few days later, Tampa, FL netted 4.76 inches of rain on December 26-27, shattering their 24-hour December record.

Tampa received 1 inch or more of rain on 7 days during December (normal for an entire year is 13 days) en route to a record-setting monthly total of 15.57 inches (724% of normal). With 67.71 inches for the year, Tampa had their third-wettest year behind 1959 (76.57 inches) and 1957 (70.43 inches). Miami Beach's annual rainfall of 71.01 inches represented their highest total since 71.10 inches fell in 1959. Elsewhere in Florida, a few other December rainfall records were demolished by mid-month, with few breaks from the wetness thereafter:

Location	Total (Inches)	Normal	Former Record/Year
Tampa	15.57	2.15	7.36 in 1907
Orlando	12.63	2.15	5.67 in 1940
Jacksonville	9.77	2.72	7.76 in 1885

December rainfall records were approached in the Texas cities of Waco (9.81 inches, second to an 11.76-inch total in 1913) and Dallas-Ft. Worth (6.93 inches, third behind 8.75 inches in 1991 and 6.99 inches in 1971). For the third time this decade, annual rainfall placed among the 10 highest values on record in Dallas Ft. Worth (45.02 inches, 10th all-time) and Austin, TX (47.06 inches, 8th). Victoria, TX (67.11 inches, 179% of normal) posted their wettest year on record, smashing the 1919 record of 59.57 inches. Farther east, Shreveport, LA measured 69.21 inches during 1997, second only to an 81.99-inch total in 1991.

Some areas that did not receive excessive precipitation still had to endure a lack of sunshine. St. Louis, MO recorded less than 80 hours of sunshine during the month (27% of possible). In Iowa, Des Moines' 11-day cloudy streak (December 1-11) was their longest since a 12-day stretch in December 1991 - January 1992. Albuquerque, NM had no sunshine on 4 consecutive days from December 20-23, their longest such stretch since December 1982.

The snow that fell in Albuquerque during that period boosted the monthly total to 8.8 inches, their fourth-highest on record and greatest December amount since 1959. By December 25, snow depths stood at 3 to 4 feet across parts of the Southwest. Hannagan Meadow, AZ reported 48 inches on the ground, while Cloudcroft, NM had 33 inches. With a 5-inch cover, Amarillo, TX reported its greatest December 25 snow depth since 1939. Earlier in the month, a rare Deep South snowstorm dumped 4.8 inches of snow (on December 14) on Jackson, MS and left up to 8 inches nearby.

The procession of storms northeastward from the Southwest contributed to above-normal snowfall across portions of the central Plains and Midwest. Monthly totals reached 14.9 inches in Dodge City, KS, 10.9 inches in Kansas City, MO, and 15.2 inches in Moline, IL. The storms also helped to draw cold--but not Arctic--air deep into the South. On December 13-14 and again during the last week of the month, temperatures dipped to near-freezing levels as far south as Texas' Lower Rio Grande Valley. On December 26, Alamosa, CO notched a daily-record low of -23°F.

Snow returned to much of the East on December 29-31 as a major storm moved southeastward into Tennessee before re-developing along the East Coast and turning northward. More than 2 feet buried isolated locations in the central and northern Appalachians, and 5.2 inches fell as far south as Greensboro, NC. In New York, the late-month storm and subsequent lake-effect precipitation raised monthly snowfall to 34.3 inches in Binghamton and 47.8 inches in Syracuse. Just a week earlier (December 22-23), another storm had dumped more than 20 inches on parts on New Hampshire and Massachusetts.

Farther west, however, little precipitation accompanied the unusually mild weather across the North Central States. Monthly precipitation of 0.34 inch in Houghton Lake, MI and a trace in Helena, MT were the lowest on record during December. When 0.01 inch fell in Glasgow, MT on December 27, a 34-day dry spell ended, their longest such streak since

1973. For the first time on record, Glasgow escaped December with no sub-zero temperatures, posting an average monthly temperature that was 10.9°F above normal. In North Dakota, Grand Forks' average temperature of 23.7°F tied their December record set in 1959.

In southern California, early-month storminess yielded to only sporadic showers. The month's most impressive series of storms struck the region between December 4 and 9. The heaviest rain fell in Ventura County, northwest of Los Angeles, where December 6 totals reached 9.09 inches at Matilija Canyon and 9.45 inches on Old Man Mountain. Farther north, however, monthly rainfall in Eugene, OR was only 2.23 inches, their second-lowest December value on record after a 1.24-inch total in 1976.

In Hawaii, near- to above-normal temperatures and below-normal precipitation prevailed, characteristic of El Niño-driven weather patterns. Farther north, bitterly cold air overspread western Alaska during the month. A monthly snowfall record was set in Cold Bay (30.2 inches), while December totals reached 34.2 inches (22.8 inches above normal) in Kodiak and 26.6 inches (12.7 inches above normal) in Anchorage. Nome netted 14.0 inches of snow during a storm on New Year's Eve. Farther southeast, Juneau's average temperature of 36.7°F was 9.6° above normal and their second warmest on record behind 37.0°F in 1943, but precipitation was 13.61 inches, easily surpassing their December record of 9.89 inches in 1956.

Fieldwork

A split jet stream, induced by El Niño, allowed farmers to finish fall crop harvest and tillage operations under mostly dry conditions across the Northern United States. However, the weather pattern caused continued wetness during December across the Southern States and delayed harvest and fall planting activities. At the end of the month, soil moisture supplies in the major corn- and soybean-producing States were mostly adequate. There was concern, though, about the lack of snow cover on winter grain and alfalfa fields. Grain movement in the Corn Belt was slowed by low prices. Some elevators in Nebraska continued to pile grain outside in emergency storage. Above-normal temperatures in the northern Plains benefited livestock producers after the especially harsh winter last year. Farmers in the Northern and Middle Atlantic States finished fall harvest, but hay supplies were short in several areas.

Continued rainfall and below-normal temperatures from California to Florida delayed fall crop harvest, and a few fields remained unharvested at month's end. However, the majority of the soybean, cotton, and sorghum acreage was harvested by the end of December. Snow in southeastern Colorado further hindered sorghum harvest initially delayed by a late-October blizzard. A small amount of Kansas sorghum acreage was not yet harvested at the end of December due to above-normal precipitation. Tobacco curing in Kentucky and Ohio was hampered by slow drying conditions later in the month. Record wetness in Florida hampered citrus and vegetable harvests.

The very mild weather across the Northern United States promoted growth and development of the 1998 winter wheat crop but also melted snow cover on emerged fields. In Kansas, the crop was rated in mostly good condition at the end of December, with little wind and freeze damage occurring during the month. Statewide, snowfall and rain combined with moderate temperatures resulted in on-again, off-again snow cover. To the north of Kansas, dry weather during the last 3 months in the High Plains has left fields with no snow cover and subject to damage by wind and freezing temperatures. In the Northwest, snow cover was absent in eastern Washington, while good snow cover in northern Idaho and mild conditions in the southern part of the State benefited winter wheat. Mild temperatures accompanied by snow and rain benefited fields in the southern Plains. In the Southeast, planting and crop growth were delayed by late fall crop harvests and above-normal precipitation.

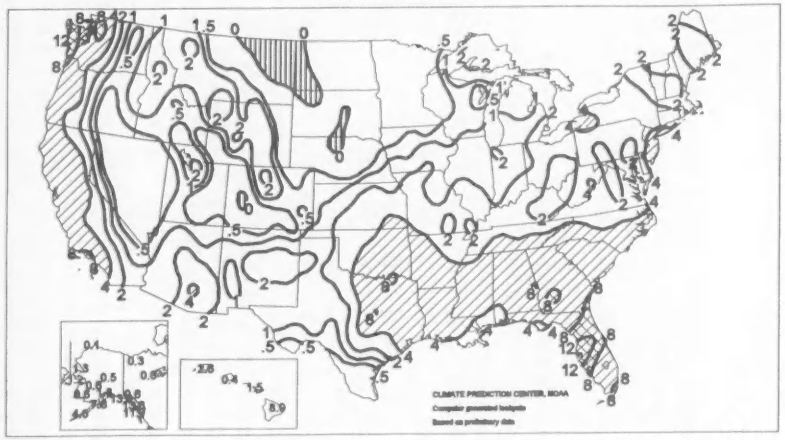
U.S. Crop Production Highlights

The following information was released by USDA's Agricultural Statistics Board on January 9, 1998. Forecasts refer to January 1.

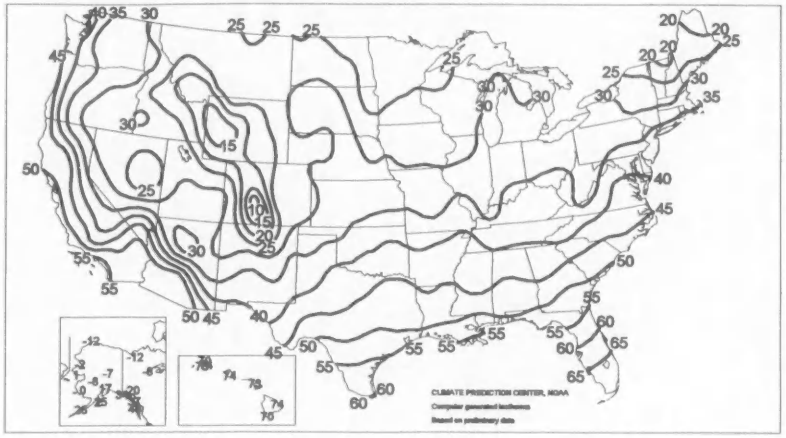
All oranges production for the 1997-98 season is forecast at a record-large 14.3 million tons, unchanged from the previous forecast in December and up 12 percent from a year ago, the previous record production year. Florida's all orange, early-season, and Valencia forecasts remained unchanged from last month and are each record-large crops. The Florida all orange production amounts to 254 million boxes (11.4 million tons), 12 percent above last season. Early and midseason varieties are expected to produce 146 million boxes (6.57 million tons), 9 percent above last year. The Valencia forecast is 108 million boxes (4.86 million tons), 17 percent above a year ago. The California all orange production forecast, at 74 million boxes (2.78 million tons), remains unchanged from the previous forecast in October and is 9 percent more than last season. The Navel orange forecast is 44 million boxes (1.65 million tons), the same as in October and up 10 percent from last year's production. The California Valencia forecast is unchanged at 30 million boxes (1.13 million tons), 7 percent more than last year.

All cotton production is forecast at 19.0 million bales, up 1 percent from December, and 34,900 bales above 1996. This is the second-largest crop on record. Yield is expected to average 686 pounds per acre, down 21 pounds from last year.

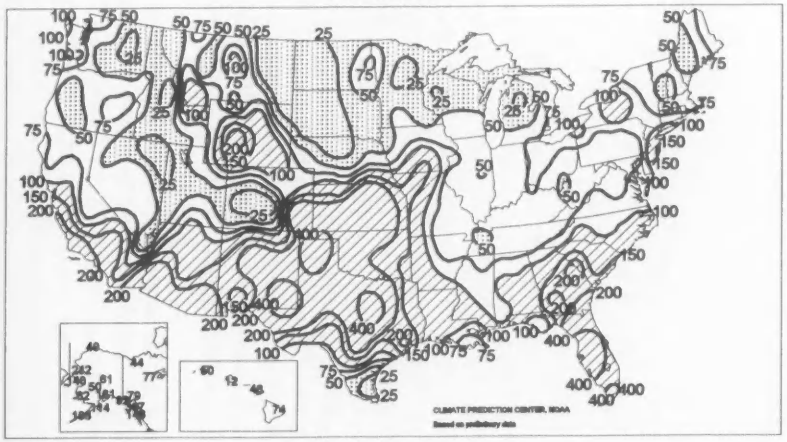
Total Precipitation (inches)
December 1997



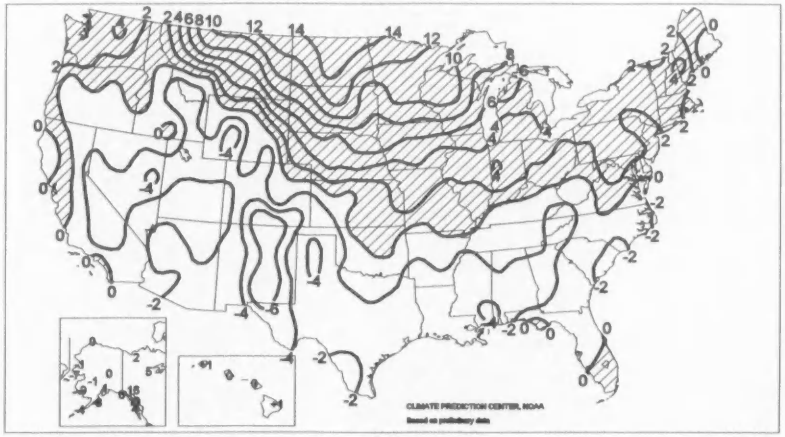
Average Temperature (°F)
December 1997



Percent of Normal Precipitation
December 1997



Departure of Average Temperature from Normal (°F)
December 1997



TEMPERATURE AND PRECIPITATION SUMMARY
December 1997

STATES AND STATIONS		TEMP, °F		PRECIP.	
		AVERAGE	DEPARTURE	TOTAL	DEPARTURE
AL	BIRMINGHAM	43	-2	4.10	-1.02
	HUNTSVILLE	41	-2	3.29	-2.58
	MOBILE	49	-4	4.37	-0.94
	MONTGOMERY	45	-4	4.51	-0.69
AK	ANCHORAGE	17	1	1.80	0.68
	BARROW	-12	-1	0.07	-0.05
	FAIRBANKS	-7	0	0.52	-0.33
	JUNEAU	37	10	13.61	9.17
	KODIAK	25	-6	7.77	0.98
	NOME	1	-7	1.16	0.33
AZ	FLAGSTAFF	27	-3	1.86	-0.56
	PHOENIX	53	-1	0.83	-0.15
	PRESCOTT	35	-2	2.46	0.87
	TUCSON	49	-3	2.88	1.81
	YUMA	55	-1	--	--
AR	FORT SMITH	40	0	4.50	1.47
	LITTLE ROCK	42	0	3.75	-0.94
CA	BAKERSFIELD	46	-1	1.44	0.82
	EUREKA	48	0	4.73	-1.31
	FRESNO	45	-1	0.96	-0.46
	LOS ANGELES	57	1	4.38	2.73
	REDDING	46	1	3.28	-2.22
	SACRAM/MCCLELL	47	--	2.45	--
	SAN DIEGO	58	0	1.35	-0.24
	SAN FRANCISCO	51	2	5.27	2.18
CO	ALAMOSA	9	-9	0.19	-0.25
	CO SPRINGS	31	1	0.10	-0.36
	DENVER	28	-3	0.50	-0.10
	GRAND JUNCTION	28	0	0.14	-0.47
	PUEBLO	30	-1	0.38	-0.04
CT	BRIDGEPORT	35	1	3.35	-0.15
	HARTFORD	31	2	2.18	-1.73
DC	WASHINGTON	41	1	1.74	-1.38
DE	WILMINGTON	38	2	2.57	-0.91
FL	DAYTONA BEACH	59	-1	7.76	5.17
	JACKSONVILLE	54	0	9.77	7.05
	KEY WEST	71	-1	4.42	2.40
	MIAMI	69	0	5.27	3.44
	ORLANDO	61	-1	12.63	10.48
	TAMPA	61	-1	15.57	13.42
	VALPARAISO/EGLIN	51	-1	4.27	0.06
	WEST PALM BEACH	67	0	5.03	2.54
GA	ATHENS	44	-2	5.91	1.82
	ATLANTA	43	-2	5.06	0.72
	AUGUSTA	47	-1	6.94	3.54
	COLUMBUS	47	-2	6.72	1.75
	MACON	46	-2	7.28	2.97
	SAVANNAH	50	-1	3.99	1.03
HI	HILO	74	0	8.85	-3.19
	HONOLULU	74	0	0.44	-3.36
	KAHULUI	73	0	--	--
	LIHUE	74	-1	--	--
ID	BOISE	31	1	0.65	-0.71
	LEWISTON	35	0	0.80	-0.60
	POCATELLO	23	-2	0.66	-0.45
IL	CHICAGO/O'HARE	31	5	1.50	-0.97
	MOLINE	29	4	1.76	-0.47
	PEORIA	31	4	1.94	-0.50
	ROCKFORD	28	4	0.84	-1.21
	SPRINGFIELD	32	3	1.75	-0.98
IN	EVANSVILLE	35	0	2.34	-1.33
	FORT WAYNE	31	2	1.73	-1.16
	INDIANAPOLIS	33	2	1.33	-2.01
	SOUTH BEND	31	2	2.10	-1.20
IA	BURLINGTON	--	--	1.52	-0.46
	CEDAR RAPIDS	28	5	1.16	-0.43
	DES MOINES	29	4	1.36	0.04
	DUBUQUE	27	5	1.06	-0.88
	SIOUX CITY	28	7	0.21	-0.57
	WATERLOO	27	6	0.65	-0.65
KS	CONCORDIA	30	1	1.75	0.91
	DODGE CITY	31	-1	2.59	1.94
	GOODLAND	29	0	0.54	0.13
	TOPEKA	33	2	2.41	0.98
	WICHITA	35	2	2.65	1.46
KY	JACKSON	36	-1	2.21	-2.17
	LEXINGTON	35	-1	2.68	-1.30
	LOUISVILLE	37	0	3.32	-0.32
	PADUCAH	37	0	2.48	-2.22
LA	BATON ROUGE	50	-3	6.32	0.79
	LAKE CHARLES	51	-2	5.72	0.67
	NEW ORLEANS	53	-2	2.55	-3.20
	SHREVEPORT	46	-2	6.10	2.00
ME	CARIBOU	16	1	2.81	-0.41
	PORTLAND	29	3	2.57	-1.99
MD	BALTIMORE	38	2	2.05	-1.36
MA	BOSTON	35	1	2.32	-1.69
	WORCESTER	30	3	2.32	-1.73
MI	ALPENA	29	6	0.73	-1.30
	GRAND RAPIDS	31	4	0.98	-1.87
	HOUGHTON LAKE	28	5	0.34	-1.61
	LANSING	30	4	0.89	-1.44
	MARQUETTE	--	--	2.40	-0.21
	MUSKEGON	31	3	1.22	-1.81
MN	DULUTH	22	10	0.40	-0.84
	INT'L FALLS	20	13	0.23	-0.61
	MINNEAPOLIS	27	9	0.31	-0.77
	ROCHESTER	25	8	0.38	-0.65
	ST. CLOUD	24	10	0.23	-0.60
MS	JACKSON	45	-3	5.77	-0.14
	MERIDIAN	45	-3	4.71	-1.36
	TUPELO	42	-2	3.71	-2.45
MO	COLUMBIA	33	2	1.78	-0.69
	KANSAS CITY	33	3	2.33	0.75
	SAINT LOUIS	35	1	1.85	-1.18
	SPRINGFIELD	35	0	3.15	-0.01
MT	BILLINGS	30	5	0.57	-0.21
	BUTTE	17	0	0.15	-0.29
	GLASGOW	26	11	0.01	-0.37
	GREAT FALLS	31	7	0.33	-0.52
	KALISPELL	27	4	0.57	-1.16
	MILES CITY	29	10	0.02	-0.59
	MISSOULA	26	2	0.33	-0.83
NE	GRAND ISLAND	30	5	0.41	-0.30
	LINCOLN	29	4	0.73	-0.15
	NORFOLK	29	6	0.37	-0.37
	NORTH PLATTE	28	4	0.20	-0.27
	OMAHA	30	5	0.49	-0.53
	SCOTTSBLUFF	30	3	0.31	-0.25
	VALENTINE	29	7	0.03	-0.34
NV	ELY	21	-5	0.23	-0.47
	LAS VEGAS	46	0	0.07	-0.31
	RENO	31	-1	0.58	-0.41
	WINNEMUCCA	30	0	0.26	-0.63
NH	CONCORD	28	4	1.95	-1.21
NJ	NEWARK	37	2	4.16	0.71
NM	ALBUQUERQUE	33	-2	1.00	0.50
NY	ALBANY	30	3	1.48	-1.45
	BINGHAMTON	28	1	2.81	-0.19
	BUFFALO	32	3	2.97	-0.70
	ROCHESTER	31	2	2.88	0.15
	SYRACUSE	31	2	4.12	0.92
NC	ASHEVILLE	37	-3	2.98	-0.54
	CHARLOTTE	43	0	4.08	0.60
	GREENSBORO	39	-2	2.17	-1.19
	HATTERAS	46	-3	5.85	1.11
	RALEIGH	41	-2	2.75	-0.49
	WILMINGTON	47	-1	4.84	1.21
ND	BISMARCK	28	14	0.08	-0.43
	DICKINSON	29	12	0.03	-0.36
	FARGO	24	12	0.44	-0.20
	GRAND FORKS	24	14	0.56	-0.08
	JAMESTOWN	26	13	0.28	-0.20
	WILLISTON	26	12	0.02	-0.57
OH	AKRON-CANTON	31	1	2.08	-0.87
	CINCINNATI	35	2	2.77	-0.38
	CLEVELAND	33	2	2.42	-0.67
	COLUMBUS	35	3	2.13	-0.73
	DAYTON	33	1	2.15	-0.78
	MANSFIELD	31	1	2.31	-0.76
	TOLEDO	31	3	2.07	-0.86
	YOUNGSTOWN	32	3	2.71	-0.22
OK	OKLAHOMA CITY	39	0	2.01	0.61
	TULSA	39	0	4.30	2.14
OR	ASTORIA	44	1	8.45	-2.10
	BURNS	25	0	0.90	-0.25
	EUGENE	39	-2	2.23	-6.38
	MEDFORD	38	0	1.38	-1.98
	PENDLETON	36	1	1.05	-0.58
	PORTLAND	41	1	3.03	-3.10
	SALEM	40	0	3.17	-3.63
PA	ALLENTOWN	33	1	2.37	-1.12
	ERIE	34	2	4.86	1.26
	MIDDLETOWN	36	2	2.01	-1.23
	PHILADELPHIA	38	3	3.09	-0.29
	PITTSBURGH	33	2	1.29	-1.63
	SCRANTON	31	1	2.25	-0.26
	WILLIAMSPORT	33	2	1.46	-1.57
RI	PROVIDENCE	34	1	2.84	-1.54
SC	BEAUFORT	50	-2	3.94	0.74
	CHARLESTON	50	-2	5.19	2.04
	COLUMBIA	45	-2	4.39	0.80
	GREENVILLE	42	-1	4.25	0.11
SD	ABERDEEN	26	10	0.18	-0.23
	HURON	29	10	0.22	-0.25
	RAPID CITY	31	6	0.08	-0.39
	SIOUX FALLS	26	8	0.24	-0.46
TN	BRISTOL	36	-2	2.17	-1.22
	CHATTANOOGA	41	0	3.30	-1.88
	KNOXVILLE	39	-1	2.37	-2.18
	MEMPHIS	42	-2	4.62	-1.22
	NASHVILLE	40	-1	2.19	-2.43
TX	ABILENE	43	-3	3.16	2.13
	AMARILLO	33	-3	2.12	1.69
	AUSTIN	51	-1	4.26	2.38
	BEAUMONT	52	-3	6.62	1.81
	BROWNSVILLE	60	-2	0.45	-0.80
	CORPUS CHRISTI	56	-2	0.15	-1.11
	DEL RIO	50	-2	0.58	-0.03
	EL PASO	41	-3	1.41	0.84
	FORT WORTH	46	-1	6.93	5.09
	GALVESTON	54	-2	4.90	1.40
	HOUSTON	50	-3	5.42	1.97
	LUBBOCK	37	-4	1.75	1.22
	MIDLAND	42	-3	1.36	0.79
	SAN ANGELO	45	-2	1.38	0.59
	SAN ANTONIO	50	-2	3.55	2.04
	VICTORIA	52	-3	1.63	-0.41
	WACO	47	-2	9.81	7.95
	WICHITA FALLS	41	-2	4.12	2.83
UT	SALT LAKE CITY	28	-2	0.64	-0.76
VT	BURLINGTON	26	3	1.65	-0.77
VA	LYNCHBURG	37	-1	2.72	-0.61
	NORFOLK	43	0	2.65	-0.58
	RICHMOND	40	0	2.36	-0.90
	ROANOKE	38	0	2.37	-0.60
	WASH/DULLES	37	2	1.92	-1.30
WA	HANFORD	35	--	0.31	-0.72
	OLYMPIA	39	1	5.40	-2.71
	QUILLAYUTE	43	3	13.56	-1.92
	SEATTLE-TACOMA	42	1	2.63	-3.28
	SPOKANE	29	2	1.00	-1.41
	YAKIMA	30	0	0.19	-1.22
WV	BECKLEY	33	-1	2.20	-1.04
	CHARLESTON	36	-1	1.57	-1.82
	ELKINS	32	0	2.53	-0.96
	HUNTINGTON	37	0	1.56	-1.79
WI	EAU CLAIRE	27	10	0.26	-0.84
	GREEN BAY	28	8	0.61	-0.92
	MADISON	28	6	1.25	-0.59
	MILWAUKEE	30	6	1.30	-1.03
WY	CASPER	23	-1	0.96	0.30
	CHEYENNE	28	1	0.59	0.17
	LANDER	15	-6	1.85	1.27
	SHERIDAN	24	1	0.78	0.08
PR	SAN JUAN	--	--	1.02	4.46

Based on 1961-90 normals.

1997 Weather Review

Highlights this year included severe winter flooding in the Pacific Northwest and northern California, a mild winter across the East, and fierce blizzards and frigid temperatures across the Northern Plains followed by catastrophic flooding along the Red River in April. Major flooding also struck the Ohio River Valley in March, and flash flooding struck the Southwest during the summer. Spring was cool and wet over central and eastern areas, but summer became drier, especially in the mid-Atlantic region and Northeast. Nevertheless, the Corn Belt once again escaped widespread drought this year. A blizzard buried the central Plains during October, and frequent storms left the southern half of the country unusually wet in November and December, as the El Niño began influencing U.S. weather patterns. In sharp contrast with the previous year, the northern Plains experienced mild, dry weather at the start of the 1997-98 winter. For the year as a whole, most of the country outside of the Pacific coast tended to be slightly cooler than normal, with precipitation generally above normal except across the northeastern quadrant of the country (table 1, figs. 1 and 2).

Table 1. Temperature/Precipitation Rankings for 1997
Based on the Period 1895-1997
1 = Driest/Coldest, 103 = Wettest/Hottest

Region	Precipitation	Temperature
Northeast	12	33
East North Central	21	47
Central	28	20
Southeast	69	34
West North Central	56	71
South	87	20
Southwest	73	77
Northwest	73	89
West	47	98
National	61	60

Winter (December 1996 - February 1997)

The winter was mild across most of the country, with average temperatures 2 to 5°F above normal. The notable exception was the northern Plains from Minnesota to Montana, where temperatures averaged 2 to 5 °F below normal and a parade of storms brought heavy snows and high winds. Winter precipitation totaled twice the norm over parts of the Dakotas. Precipitation was also more than twice normal over large parts of the Northwest, where a 12-week wet spell culminated in record December precipitation and major flooding. Major river flooding spread across California's Central Valley at the start of the year. Nevada and Idaho were also hard hit by flooding.

Though Florida experienced a mild winter, a freeze on January 19 damaged vegetables but left the citrus crop mostly unscathed.

Spring (March - May)

Spring was cool over the eastern two-thirds of the country and warm across the West. Two major flooding episodes dominated the weather news, with heavy rains causing floods in the Ohio River Valley during early March and melting snows causing record floods in the northern Plains during April. Kentucky bore the brunt of the Ohio Valley flood damage, as Louisville recorded 13.04 inches of rain from February 28 to March 3, including a 24-hour total of 10.48 inches on March 1, setting a new State record. The April flooding of the Red River brought catastrophic damage to eastern North Dakota, where water overran nearly the entire city of Grand Forks. Flooding also hit the James, Minnesota, and upper Mississippi River basins. Along with the winter and spring blizzards, the floods resulted in large numbers of livestock deaths, especially in North Dakota.

Spring began and ended with severe tornado outbreaks. In Arkansas, 26 people died on March 1, and 27 died from a single twister in Jarrell, TX on May 27. April also saw a pair of major winter storms strike New England.

Plentiful precipitation benefited most winter wheat areas this spring, though a severe freeze damaged some wheat on April 11-13 on the central and southern Plains. Ironically, topsoil moisture was unfavorably low across North Dakota by spring's end, little more than 1 month after the Red River flood.

Summer (June - August)

A 10-week spell of cool, wet weather in the Central and Eastern States finally ended around mid-June. Hot, dry weather in July concerned central Corn Belt farmers, but August rains revived crops. June-August rainfall totals were above normal over most of the country, major exceptions being parts of Illinois, Indiana, and Iowa, where rainfall was less than 75 percent of normal, and the Eastern Seaboard. Drought, aggravated by spells of heat, hurt crops in the mid-Atlantic region as well as parts of the Southeast and Northeast. Rains from Hurricane Danny, the only tropical system to strike the Gulf or Atlantic coasts this year, soaked the Southeast during mid-July, relieving dryness but causing some flood damage. Danny's rains in conjunction with a cold front relieved drought in parts of the mid-Atlantic region. Heavy rains in mid-August further relieved dryness, but the moisture followed a heat wave that caused mid-Atlantic temperatures to rise into the upper 90's and lower 100's on August 16-17.

A persistent flow of tropical moisture governed weather patterns over the Southwest and High Plains from late July through summer's end. Frequent bouts of locally heavy rains caused flash floods in the Southwest, including deadly episodes in Fort Collins, CO on July 28, Douglas, AZ on August 5, and Page, AZ on August 12.

Percent of Normal Precipitation
Annual 1997

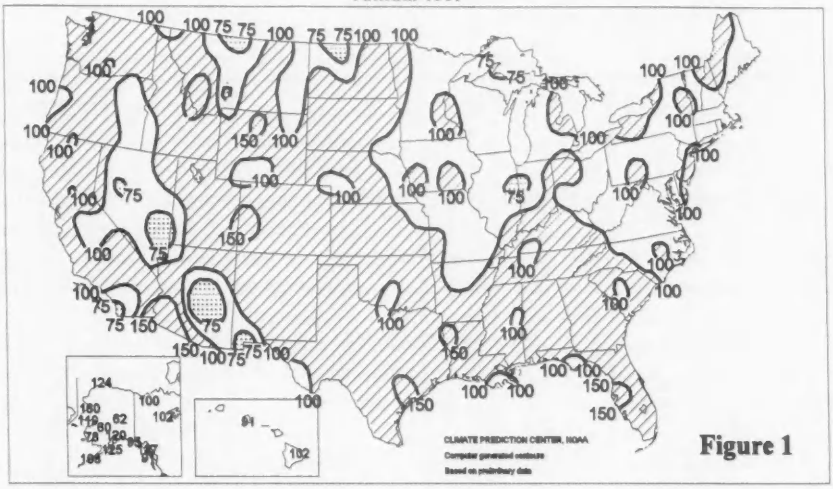


Figure 1

In Alaska, a warm, dry spring and summer in the interior led to an active fire season, with wildfires consuming 1.9 million acres of forest and tundra during the year. Fairbanks recorded its driest spring on record, measuring 0.14 inches of precipitation from March through May. Fairbanks also noted its fourth warmest summer ever.

Autumn (September - November)

A Pacific hurricane, Nora, struck the Southwest on September 25 after diminishing to tropical storm strength. She brought heavy rains to California and Arizona, including more rainfall (3.83 inches) in Yuma, AZ than is normally collected during an entire year. In mid-October, the weather pattern changed from dry and warm to wet and cool for the Eastern Seaboard and Gulf Coast. Even before the change, very heavy rains led to flooding across southeastern Texas during October 6-13, helping to boost autumn totals to more than 20 inches in several spots along the coast.

A massive winter storm struck the central Plains from October 24 to 26, snarling traffic, lodging unharvested summer crops, and severely affecting livestock. The blizzard that pounded Colorado left 22 inches of snow in Denver and drifts several feet high across the Colorado plains. The cold wave accompanying thestorm broke more than 100 daily low-temperature records from October 25 to 28.

Departure of Average Temperature from Normal (°F)
Annual 1997

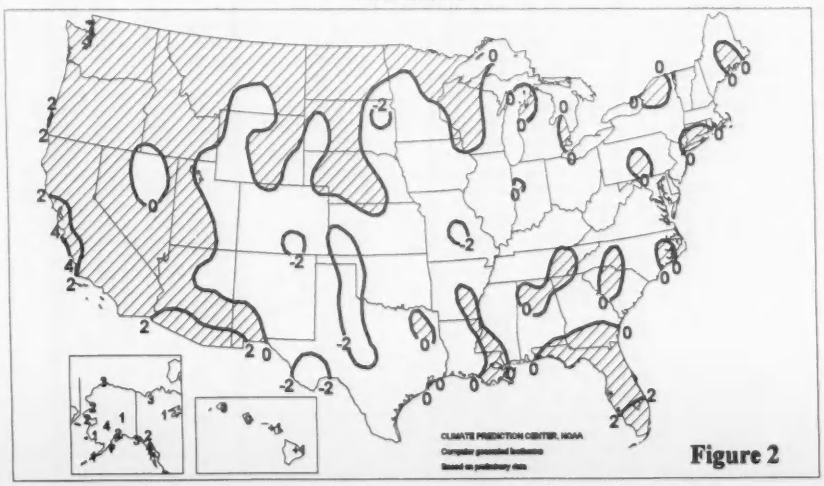


Figure 2

The weather became drier after the storm in the central Plains, but storminess prevailed across the Southern Tier of States and over the Northeast in November. In Maine, Portland's snow total of 20.5 inches was its highest November tally since 1921. November precipitation was 200 to 400 percent of normal in much of California.

December

December's weather pattern featured a typical El Niño configuration, with a northern-branch jet stream confining cold air to the north and a vigorous southern jet maintaining cool and wet weather across the Southern States. Monthly temperatures were 5 to 15°F above normal across the North Central States and as much as 3°F below normal in the Southeast. Heavy snows fell across the southern Rockies and southern Plains, and record rains pelted Florida. Up to 11 inches of rain caused floods in central Florida on December 9 to 15, and more rains fell before year's end. Tampa's monthly total of 15.57 inches smashed its previous record for December by more than 8 inches.

Precipitation was light across the northern Plains. In Glasgow, MT, no measurable rain or snow fell from November 22 to December 26, the longest such dry spell since 1973.

Opposite conditions prevailed farther south. By Christmas Day, snow was 3 to 4 feet deep across parts of Arizona and New Mexico. Earlier in the month, on the 14th, a rare snowstorm struck the Deep South, leaving up to 8 inches of snow on Mississippi.

PRECIPITATION SUMMARY
Annual 1997

STATES AND STATIONS		PRECIPITATION			
		TOTAL	NORMAL	DEPARTURE	% NORMAL
AL	BIRMINGHAM	54.86	54.58	0.28	101%
	HUNTSVILLE	57.48	57.18	0.30	101%
	MOBILE	80.14	63.96	16.18	125%
	MONTGOMERY	50.18	53.43	-3.25	94%
AK	FAIRBANKS	6.74	10.87	-4.13	62%
	JUNEAU	74.66	54.31	20.35	137%
	KODIAK	84.20	67.58	16.62	125%
	MCGRATH	10.20	17.04	-6.84	60%
AZ	WFO BELLEMONT	19.70	N/A	N/A	N/A
	FLAGSTAFF	16.40	22.80	-6.40	72%
	PHOENIX	4.67	7.66	-2.99	61%
	TUCSON	10.56	12.00	-1.44	88%
AR	FORT SMITH	40.90	40.90	0.00	100%
	LITTLE ROCK	59.21	49.25	9.96	120%
CA	BAKERSFIELD	5.85	5.72	0.13	102%
	BLUE CANYON	66.10	62.67	3.43	105%
	BLYTHE	7.28	3.52	3.76	207%
	FRESNO	7.82	10.80	-2.98	72%
	LA CIVIC CENTER	10.67	14.77	-4.10	72%
	LOS ANGELES	11.80	12.76	-0.96	92%
	RED BLUFF	20.07	22.29	-2.22	90%
	WFO SACRAMENTO	24.33	17.52	6.81	139%
	SAN DIEGO	7.00	9.90	-2.90	71%
	SAN FRANCISCO	21.48	19.70	1.78	109%
	S.F. (DOWNTOWN)	20.71	20.52	0.19	101%
CO	ALAMOSA	7.71	7.57	0.14	102%
	BURLINGTON	15.48	15.29	0.19	101%
	CO. SPRINGS	23.12	16.24	6.88	142%
	DENVER	19.59	16.11	3.48	122%
	GRAND JUNCTION	13.22	8.64	4.58	153%
	PUEBLO	14.36	11.19	3.16	128%
CT	BRIDGEPORT	36.96	41.66	-4.70	89%
	HARTFORD	38.84	44.14	-5.30	88%
DE	WILMINGTON	28.04	40.84	-12.80	69%
DC	WASHINGTON	33.82	38.63	-4.81	88%
FL	DAYTONA BEACH	54.70	47.89	6.81	114%
	FT. LAUDERDALE	75.89	60.84	15.05	125%
	FT. MYERS	60.17	53.37	6.80	113%
	JACKSONVILLE	57.27	51.32	5.95	112%
	KEY WEST	39.89	39.59	0.30	101%
	MELBOURNE	64.82	45.49	19.13	142%
	MIAMI	70.62	55.91	14.71	126%
	MIAMI BEACH	71.01	45.35	25.66	157%
	ORLANDO	64.51	48.11	16.40	134%
	PENSACOLA	80.47	62.23	18.24	129%
	TALLAHASSEE	65.14	65.71	-0.57	99%
	TAMPA	67.71	43.92	23.79	154%
	W. PALM BEACH	62.14	60.75	1.39	102%
GA	ATHENS	56.80	49.74	7.06	114%
	ATLANTA	51.68	50.77	0.91	102%
	AUGUSTA	50.36	44.66	5.70	113%
	COLUMBUS	51.59	51.00	0.59	101%
	MACON	45.84	44.83	1.01	102%
	SAVANNAH	55.84	49.22	6.62	113%
HI	HILO	132.33	129.19	3.14	102%
	HONOLULU	20.06	22.02	-1.96	91%
ID	BOISE	11.08	12.11	-1.03	91%
	LEWISTON	15.06	12.43	2.63	121%
	POCATELLO	13.22	12.14	1.08	109%
IL	CHICAGO	31.73	35.82	-4.09	89%
	MOLINE	34.92	39.08	-4.16	89%
	PEORIA	32.11	36.25	-4.14	89%
	ROCKFORD	28.04	36.28	-8.24	77%
	SPRINGFIELD	30.14	35.25	-5.11	86%
IN	EVANSVILLE	47.57	43.14	4.43	110%
	FT. WAYNE	40.92	34.75	6.17	118%
	INDIANAPOLIS	33.05	39.94	-6.89	83%
	SOUTH BEND	33.44	39.14	-5.70	85%
IA	BURLINGTON	32.52	36.06	-3.54	90%
	CEDAR RAPIDS	26.06	33.72	-7.66	77%
	DES MOINES	32.26	33.12	-0.86	97%
	DUBUQUE	29.87	38.36	-8.49	78%
	SIOUX CITY	18.45	25.86	-7.41	71%
	WATERLOO	32.34	33.70	-1.36	96%
KS	CONCORDIA	25.97	28.78	-2.81	90%
	GOODLAND	18.68	18.20	0.48	103%
	DODGE CITY	29.75	21.49	8.26	138%
	HILL CITY	19.89	21.73	-2.04	91%
	TOPEKA	30.58	36.23	-4.65	87%
	WICHITA	37.03	29.33	7.70	126%
KY	JACKSON	49.29	49.67	-0.39	99%
	LEXINGTON	59.14	44.55	14.59	133%
	LOUISVILLE APT.	49.29	N/A	N/A	N/A
	WFO LOUISVILLE	59.37	44.39	14.98	134%
	PADUCAH	50.89	49.31	1.38	103%

STATES AND STATIONS		PRECIPITATION			
		TOTAL	NORMAL	DEPARTURE	% NORMAL
LA	BATON ROUGE	68.27	60.89	7.38	112%
	LAKE CHARLES	65.70	54.84	10.86	120%
	NEW ORLEANS	51.65	61.88	-10.23	83%
	SHREVEPORT	69.21	46.11	23.10	150%
ME	CARIBOU	35.37	36.60	-1.23	97%
	PORTLAND	37.61	44.34	-6.73	85%
MD	BALTIMORE	38.34	40.75	-2.41	94%
	SALISBURY	43.96	44.57	-0.61	99%
MA	BOSTON	32.08	41.51	-9.43	77%
	WORCESTER	36.23	47.51	-11.28	76%
MI	ALPENA	31.48	28.83	2.65	109%
	WFO GAYLORD	29.47	N/A	N/A	N/A
	GRAND RAPIDS	29.61	36.04	-6.43	82%
	HOUGHTON LAKE	25.61	28.25	-2.64	91%
	LANSING	28.71	30.62	-3.91	87%
	MARQUETTE	32.90	35.30	-2.40	93%
	MUSKEGON	26.43	32.57	-6.14	81%
	SAULT STE. MARIE	27.91	34.23	-6.32	82%
	WFO WHITE LAKE	34.61	N/A	N/A	N/A
MN	DULUTH	23.92	30.00	-6.08	80%
	INT'L FALLS	18.92	24.36	-5.44	78%
	MINNEAPOLIS	34.45	28.32	6.13	122%
	ROCHESTER	29.65	29.66	-0.01	100%
	ST. CLOUD	24.59	27.43	-2.84	90%
MS	JACKSON	58.94	55.37	3.57	106%
	MERIDIAN	55.03	56.71	-1.68	97%
	TUPELO	63.79	55.87	7.92	114%
MO	COLUMBIA	37.16	39.05	-1.89	95%
	JOPLIN	44.20	43.23	0.97	102%
	KANSAS CITY	33.07	37.62	-4.55	88%
	ST. JOSEPH	33.47	35.69	-2.22	94%
	ST. LOUIS	31.23	37.51	-6.28	83%
	SPRINGFIELD	38.48	43.04	-4.56	89%
MT	WFO BILLINGS	15.58	N/A	N/A	N/A
	BUTTE	19.94	12.10	7.84	165%
	GLASGOW	11.72	10.96	0.76	107%
	GREAT FALLS	14.65	15.21	-0.56	96%
	HELENA	13.92	11.60	2.32	120%
	KALISPELL	17.56	16.51	1.05	106%
	MILES CITY	9.90	14.07	-4.17	70%
	MISSOULA	14.75	13.46	1.29	110%
NE	GRAND ISLAND	29.11	24.90	4.21	117%
	WFO HASTINGS	26.55	27.80	-1.25	96%
	KEARNEY	22.91	24.79	-1.88	92%
	LINCOLN	25.07	28.26	-3.19	89%
	NORFOLK	20.18	25.15	-4.97	80%
	NORTH PLATTE	17.61	19.30	-1.69	91%
	WFO OMAHA	30.41	29.86	0.55	102%
	OMAHA (EPPLEY)	30.21	N/A	N/A	N/A
	SCOTTSBLUFF	20.39	15.27	5.12	134%
	VALENTINE	22.00	18.23	3.77	121%
NV	ELKO	9.85	9.93	-0.08	99%
	ELY	9.17	10.13	-0.96	91%
	LAS VEGAS	3.84	4.13	-0.29	93%
	RENO	7.75	7.53	0.22	103%
	WINNEMUCCA	7.90	8.23	-0.33	96%
NH	CONCORD	34.38	36.37	-1.99	95%
NJ	NEWARK	42.32	43.97	-1.65	96%
NM	ALBUQUERQUE	12.36	8.88	3.48	139%
NY	ALBANY	34.10	36.17	-2.07	94%
	BINGHAMTON	31.47	36.99	-5.52	85%
	BUFFALO	41.17	38.58	2.59	107%
	CENTRAL PARK	43.93	47.25	-3.32	93%
	ROCHESTER	34.85	31.96	2.89	109%
	SYRACUSE	32.62	38.93	-6.31	84%
NC	ASHEVILLE	49.38	47.59	1.79	104%
	CHARLOTTE	48.74	43.09	5.65	113%
	GREENSBORO	38.80	42.62	-3.82	91%
	HATTERAS	52.78	56.09	-3.31	94%
	RALEIGH-DURHAM	40.81	41.43	-0.62	99%
	WILMINGTON	48.92	54.27	-5.35	90%
ND	BISMARCK	14.90	15.47	-0.57	96%
	DICKINSON	16.46	16.11	0.35	102%
	FARGO	27.04	19.45	7.59	139%
	GRAND FORKS	22.18	N/A	N/A	N/A
	JAMESTOWN	20.64	16.89	3.75	122%
	MINOT	15.91	18.57	-2.66	86%
	WILLISTON	11.77	13.67	-1.90	86%
OH	AKRON-CANTON	32.48	36.82	-4.34	88%
	CINCINNATI	40.12	41.33	-1.21	97%
	CLEVELAND	35.36	36.63	-1.27	97%
	COLUMBUS	37.98	38.09	-0.13	100%
	DAYTON	31.23	36.64	-5.41	85%
	MANSFIELD	39.33	39.66	-0.33	99%
	TOLEDO	38.87	32.97	5.90	118%

STATES AND STATIONS		PRECIPITATION			
		TOTAL	NORMAL	DEPARTURE	% NORMAL
	YOUNGSTOWN	33.67	37.32	-3.65	90.22
OK	OKLAHOMA CITY	27.02	33.30	-6.28	81%
	TULSA	41.27	40.59	0.68	102%
OR	ASTORIA	85.81	66.40	19.41	129%
	BURNS	9.90	9.96	-0.06	99%
	EUGENE	38.66	49.37	-10.71	78%
	MEDFORD	17.93	18.86	-0.93	95%
	PENDLETON	11.66	12.02	-0.36	97%
	PORTLAND	43.95	36.30	7.65	121%
	SALEM	45.77	39.16	6.61	117%
PA	ALLENTOWN	38.54	43.52	-4.98	89%
	ERIE	40.94	41.53	-0.59	99%
	HARRISBURG	32.32	40.50	-8.18	80%
	PHILADELPHIA	32.52	41.48	-8.96	78%
	PITTSBURGH	34.57	36.85	-2.28	94%
	SCRANTON	28.84	36.18	-7.34	80%
	WILLIAMSPORT	29.63	40.72	-11.09	73%
RI	PROVIDENCE	40.11	45.51	-5.40	88%
SC	CHARLESTON	61.57	51.53	10.04	119%
	CHARLESTON	53.09	N/A	N/A	N/A
	COLUMBIA	47.63	49.91	-2.28	95%
	FLORENCE	48.72	43.84	4.88	111%
	GREENVILLE	50.06	51.27	-1.21	98%
SD	ABERDEEN	19.38	18.55	0.83	104%
	HURON	24.77	20.08	4.69	123%
	WFO RAPID CITY	22.55	N/A	N/A	N/A
	RAPID CITY	20.72	16.64	4.08	125%
	SIOUX FALLS	20.26	23.86	-3.60	85%
TN	BRISTOL	41.83	40.72	0.91	102%
	CHATTANOOGA	56.29	53.46	2.83	105%
	KNOXVILLE	50.15	47.14	3.01	106%
	MEMPHIS	72.24	52.10	20.14	139%
	NASHVILLE	54.91	47.30	7.61	116%
TX	ABILENE	27.09	24.40	2.68	111%
	AMARILLO	24.95	19.56	5.39	128%
	AUSTIN	47.06	31.88	15.18	148%
	BEAUMONT	52.43	57.18	-4.75	92%
	BROWNSVILLE	36.19	26.61	9.58	136%
	COLLEGE STATION	42.13	39.08	3.05	108%
	CORPUS CHRISTI	36.11	30.09	6.02	120%
	DALLAS-FT.WORTH	45.02	33.70	11.32	134%
	DEL RIO	23.12	18.24	4.88	127%
	EL PASO	9.64	8.81	0.83	109%
	GALVESTON	59.09	42.28	16.81	140%
	HOUSTON	60.24	46.07	14.17	131%
	LUBBOCK	22.67	18.65	4.02	122%
	MIDLAND	17.12	14.96	2.16	114%
	SAN ANGELO	23.38	20.45	2.93	114%
	SAN ANTONIO	33.95	30.98	2.97	110%
	VICTORIA	67.11	37.41	29.70	179%
	WACO	43.52	31.96	11.56	136%
	WICHITA FALLS	23.79	28.90	-5.11	82%
UT	SALT LAKE CITY	16.93	16.18	0.75	105%
VT	BURLINGTON	30.62	34.47	-3.85	89%
VA	BLACKSBURG	33.78	40.52	-6.74	83%
	DULLES AIRPORT	35.74	40.24	-4.50	89%
	LYNCHBURG	36.21	40.88	-4.67	89%
	NORFOLK	37.41	44.64	-7.23	84%
	RICHMOND	34.15	43.16	-9.01	79%
	ROANOKE	31.95	41.13	-9.18	78%
WA	HANFORD	6.39	6.26	0.13	102%
	OLYMPIA	64.97	50.59	14.38	128%
	QUILLAYUTE	131.26	105.19	26.07	125%
	WFO SAND POINT	46.14	N/A	N/A	N/A
	SEATTLE	44.60	37.19	7.41	120%
	WFO SPOKANE	16.17	N/A	N/A	N/A
	SPOKANE	17.48	16.48	1.00	106%
	STAMPEDE PASS	99.97	N/A	N/A	116%
	YAKIMA	6.88	7.97	-1.09	86%
WV	BECKLEY	37.78	41.03	-3.25	92%
	CHARLESTON	40.86	42.53	-1.67	96%
	ELKINS	42.13	44.84	-2.71	94%
	HUNTINGTON	37.96	43.30	-5.43	87%
WI	EAU CLAIRE	30.65	31.61	-0.96	97%
	GREEN BAY	27.35	28.83	-1.48	95%
	LACROSSE	30.18	30.55	-0.37	99%
	MADISON	28.63	30.88	-2.25	93%
	MILWAUKEE	32.77	32.93	-0.16	100%
WY	CASPER	12.23	12.52	-0.29	98%
	CHEYENNE	19.84	14.40	5.44	138%
	LANDER	14.46	13.01	1.45	111%
	RIVERTON	9.48	8.03	1.45	118%
PR	SAN JUAN	40.86	50.86	-10.00	80%

Based on 1961-90 normals.

Crop Progress 1997

After a cool, wet spring across most of the United States, generally favorable growing conditions prevailed during the 1997 growing season. Corn planting progressed rapidly and finished well ahead of the normal pace despite below-normal temperatures. As farmers finished planting corn, they immediately turned to planting soybeans, which also progressed ahead of normal. However, 10 consecutive weeks of below-normal temperatures slowed crop emergence and development, requiring some replanting.

Rain and snow in early April compounded flooding problems from record snowfall in the Red River Valley of Minnesota and North Dakota, and the James River Valley in South Dakota. Saturated soils delayed the start of spring planting and kept farmers out of fields until mid-May. Dry soils in the rest of the northern Plains stressed both winter wheat and newly emerged spring planted grains. North Dakota soils were the driest in early June since 1988.

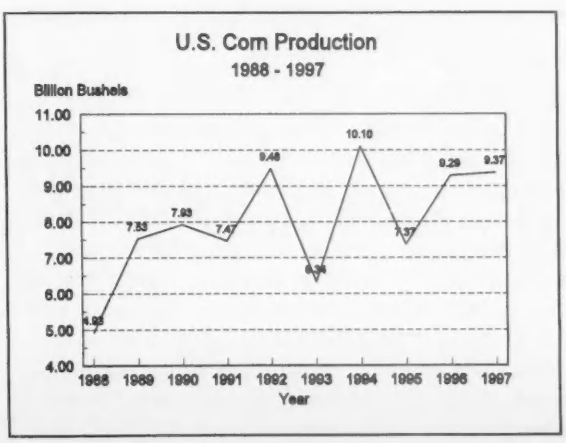
Winter wheat broke dormancy in mostly good to excellent condition. Reminiscent of 1996, below-freezing temperatures during April concerned growers in the southern Plains. Cool soils and wet weather prevented farmers in the lower Mississippi, Tennessee, and Ohio Valleys from planting spring crops. Farmers in the Southeast were also kept out of fields by cool, wet weather. Unlike the rest of the United States, States in the Southwest recorded above-normal temperatures during much of the spring.

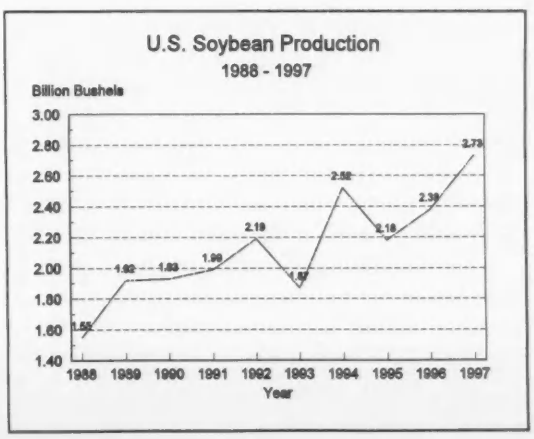
After the extended spring-like weather in the East, July brought sunshine and warmth, promoting rapid crop growth throughout the Corn Belt. After a slow start in June, winter wheat harvest progressed rapidly, and growers in the southern Plains and Southeast finished harvest slightly ahead of average. Winter wheat harvest in the Northwest started late because of a wet spring, but once combines entered fields, harvest progressed rapidly. Timely showers along the Northern Tier States provided enough moisture for small grain development to catch up after late planting. Cotton fields developed ahead of normal in the western cotton-producing States, but Southeastern fields progressed behind the normal pace due to continued wet weather.

As August began, crop conditions declined in the Corn Belt, with scattered showers providing limited or no relief from persistent dryness in an area extending from Missouri northeastward to New York. However, below-normal temperatures in the area moderated the stress somewhat and reduced evaporation rates. Mid-month rainfall provided some relief from drought conditions in the mid-Atlantic States, but came too late to save some crops. Soils in the Southeast and Texas turned dry during the month. Rice harvest progressed well ahead of the average, but behind normal elsewhere. Very warm, dry weather allowed spring grain harvest to finish ahead of the average pace in the northern Plains.

Widespread rains brought moisture and above-normal temperatures provided much-needed heat in the western Corn Belt and Plains in late August. This provided favorable weather for crop maturation in September. Corn and soybean progress in the eastern Corn Belt slowed to the average pace with continued cool, wet weather. Planting of the 1998 winter wheat crop started slowly, but gained momentum in early October as very warm, dry weather allowed farmers into fields.

Very warm, dry weather in the eastern United States provided excellent harvest conditions the first half of October. In the Corn Belt, soybean growers harvested their crop at a near-record pace. As soybean harvest finished, farmers immediatley turned to harvesting corn. Sorghum harvest also progressed ahead of the normal pace. However, an early-season





snowstorm halted fieldwork from Colorado through the western Corn Belt. Harvest of fall crops proceeded under favorable snowstorm halted fieldwork from Colorado through the conditions in the northern Plains.

Unseasonably hot weather in the Southwest helped cotton fields dry out after Tropical Storm Nora. Much-needed heat spurred the Texas cotton crop progress early in October, but heavy rains and flooding caused lint loss and damage to quality. Cotton harvest was delayed in the Southeast by 7 weeks of wet weather. Peanut harvest was virtually complete by mid-November despite continued rainfall across the Southeast.

Cool, wet weather and grain storage shortages hampered harvest efforts during November. Both corn and soybean harvests slowed as precipitation in the Great Lakes region kept grain moisture levels high and continued wet weather in the Southeast kept farmers out of soybean fields. Wet soils prevented planting of some winter wheat fields in the central Plains. However, most fields were planted by mid-November. In December, a split jet stream, caused by El Niño, allowed farmers to finish fall crop harvest and tillage operations in the northern United States. The majority of the soybean, cotton, and sorghum acreages were harvested by the end of the year. However, the weather pattern caused continued wetness across Southern States and delayed fall harvest and planting activities through the end of December.

The very mild weather across the northern United States promoted growth and development of the 1998 winter wheat crop during December. In Kansas, the crop was in mostly good condition with little or no freeze damage. To the north of Kansas, dry weather in the High Plains during the last 3 months of the year left fields with no snow cover and subject to damage by wind and freezing temperatures.

Crop Production Highlights 1997

Corn for grain production was estimated at 9.37 billion bushels, up less than 1 percent from the 1996 crop and virtually unchanged from the November 1 forecast. The 1997 production level ranks third behind 1994 and 1992, respectively. The U.S. yield of 127.0 bushels per acre was virtually the same as the 127.1 bushel yield of a year earlier.In December, a split jet stream, caused by El Niño, allowed farmers to finish fall crop harvest and tillage operations in the northern United States. The majority of the soybean, cotton, and sorghum acreages were harvested by the end of the year. However, the weather pattern caused continued wetness across Southern States and delayed fall harvest and planting activities through the end of December.

Sorghum grain production in 1997 was estimated at 653 million bushels, down 19 percent from 1996. Area harvested for grain was estimated at 9.3 million acres, down 23 percent from 1996. Grain yields, at 69.5 bushels per acre, were 2.0 bushels above the 1996 average yield.

Hay production for 1997 was estimated at 152 million tons, down sightly from the October 1 forecast and 2 percent above the revised 1996 total. Acreage harvested, at 60.8 million acres, is essentially unchanged from the October forecast and less than 1 percent below 1996. The average yield, at 2.50 tons per acre, was unchanged from October 1 and 2 percent above the previous year.

Rice production totaled 179 million cwt during 1997, 4 percent above the 1996 total. Average yield of all U.S. rice was 5,896 pounds per acre, 225 pounds below 1996's record yield but the third largest yield on record. Acreage for harvest increased from a year ago in all the major rice states except Texas, where acreage dropped 13 percent from a year ago.

Soybean production in 1997 totaled 2.73 billion bushels, down slightly from the November 1 forecast but up 14 percent from 1996. The 1997 production is the highest on record. The last record production was set in 1994 at 2.52 billion bushels. The average yield per acre in 1997 is estimated at 39.0 bushels, 0.2 bushels below the November 1 forecast and 1.4 bushels above the 1996 yield. This is the second highest yield on record behind the 1994 yield of 41.4 bushels per acre.

Cotton production is forecast at 19.0 million bales, up 1 percent from December, and 34,900 bales above 1996. This is the second largest crop on record. Yield is expected to average 686 pounds per acre, down 21 pounds from last year. Georgia's production was lowered 80,000 bales from last month, as heavy rainfall during the harvest season decreased yields from earlier expectations. Production was increased 90,000 bales in Arkansas and 80,000 bales in North Carolina, as the adverse weather early in the season didn't reduce yields as much as growers anticipated. Record yields are expected in Arkansas, Kansas, Mississippi, and Oklahoma.

International Weather and Crop Summary

January 4 - 10, 1998

HIGHLIGHTS

FSU-WESTERN: Unseasonably mild weather favored winter grains but diminished protective snow cover in the west and south.

EUROPE: Widespread precipitation and mild weather continued over winter grains in northern Europe, while welcomed dryness eased excessive moisture conditions in the Iberian peninsula, favoring fieldwork.

NORTHWESTERN AFRICA: Mostly dry weather prevailed over winter grain areas in Morocco, Algeria, and Tunisia, favoring late-season planting.

SOUTH ASIA: Seasonable warmth and dryness aided summer crop drying and winter grain development from central India to Pakistan.

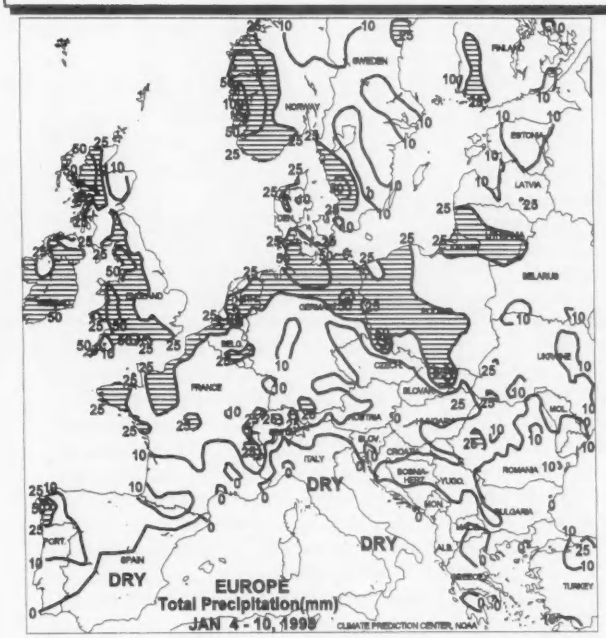
SOUTH AFRICA: Scattered showers continued across the corn belt.

SOUTHEAST ASIA: Widespread showers returned to southern Sumatra and Java, while drought continued across the northern and western Philippines.

CHINA: Winter wheat remained dormant across the North China Plain.

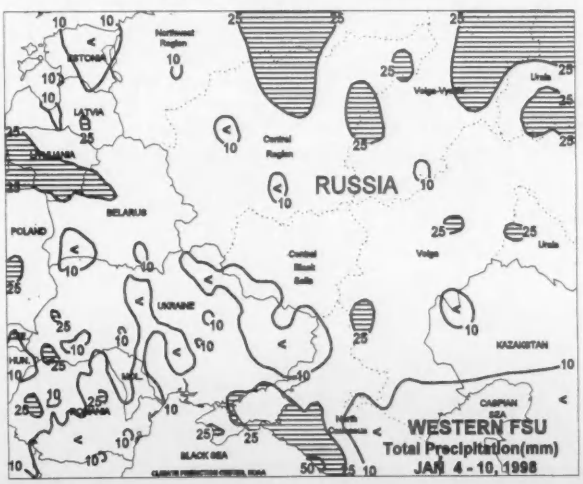
SOUTH AMERICA: In central Argentina, cool weather along with abundant soil moisture favored summer crops, but warm, dry weather reduced soil moisture in Mato Grosso do Sul, Brazil.

AUSTRALIA: Showers returned to primary summer crop areas.



EUROPE

A strong westerly flow of maritime air continued to spread across the region. Stormy weather and widespread precipitation prevailed over winter grain areas in most of northern Europe. Widespread light to moderate precipitation (10-50 mm, with local amounts in excess of 50 mm), mainly rain, spread from the United Kingdom and northern France, eastward through the Benelux countries and Germany, into Poland. Farther south, welcomed dryness prevailed over Portugal and Spain. The dry weather followed a prolonged period of excessive rains, especially in Portugal and southern Spain, improving conditions for fieldwork. Dry weather also occurred in Italy and Greece. Weekly temperatures averaged 4 to 9 degrees C above normal in northern Europe and 3 to 6 degrees C above normal in the south. As a result of the mild weather conditions, winter grain areas over most of Europe continued to lack a protective snow cover.

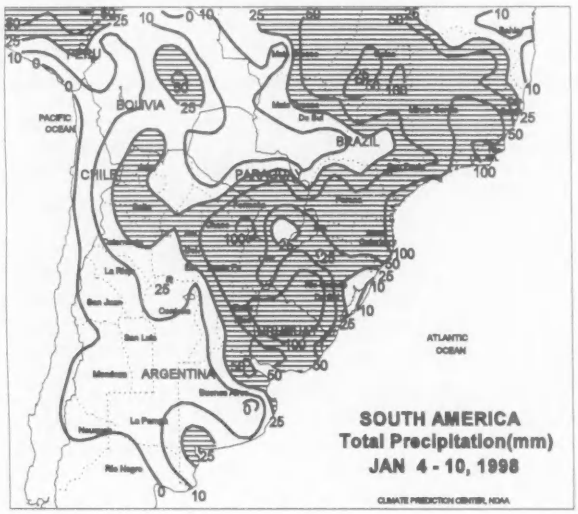


FSU-WESTERN

A weather pattern similar to last week's prevailed over the region, as a strong westerly flow of air from Europe continued to usher in unseasonably mild weather to most winter grain areas. Weekly temperatures averaged 3 to 8 degrees C above normal over most of the region. Temperatures rose above freezing over most areas, with the warmest weather (extreme maximum temperatures ranging from 5-11 degrees C) occurring in the western half of Ukraine, western Belarus, and southern areas in the North Caucasus region in Russia. Winter wheat in these areas remained snow-free during the week. Elsewhere, extreme maximum temperatures in the Baltics, Belarus, northern Russia, and northern Ukraine ranged from 1 to 4 degrees C, causing some melting of protective snow cover. Widespread precipitation (10-25 mm, with local amounts in excess of 25 mm) fell over most winter grain areas throughout the region, falling mostly in the form of rain in the west and south. By week's end, cooler weather and light snow spread southward into eastern Ukraine and the North Caucasus region in Russia, providing some protective snow cover.

SOUTH AMERICA

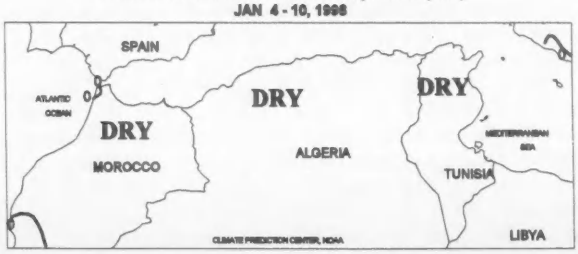
In southern Brazil, widespread showers (20-70 mm) continued to favor vegetative soybeans in Parana and Rio Grande do Sul. Light showers (less than 15 mm) and warm weather reduced soil moisture in Mato Grosso do Sul. Farther north in southern Mato Grosso and Goias, moderate showers (30-70 mm, with isolated amounts greater than 100 mm) aided vegetative soybeans. Temperatures averaged 2 to 3 degrees C above normal from northern Parana northward in southern Brazil. In central Argentina, ideal conditions, cool weather along with abundant soil moisture, favored vegetative soybeans and early reproductive corn. Temperatures averaged 2 to 3 degrees C below normal, with highs reaching only the upper 20's degrees C on most days. Rainfall was light (2-15 mm, with isolated amounts greater than 50 mm), but above-normal rainfall the past 4 weeks has boosted soil moisture to abundant levels. Light to moderate rain (10-40 mm) slowed wheat harvesting in southern Buenos Aires. Widespread showers (30-100 mm) covered cotton and soybean areas of northern Argentina and southern Paraguay.



NORTHWESTERN AFRICA

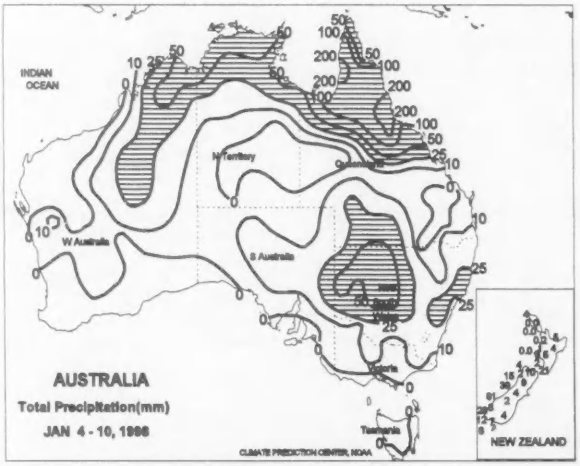
Unseasonably warm, dry weather prevailed over winter grain areas in Morocco, Algeria, and Tunisia. The dryness in these areas favored late planting activities. Winter grains were mostly in the vegetative stage over the region, and moisture reserves were adequate for normal crop development in most areas. However, a drying trend since December has reduced moisture for winter grains in western and central Algeria, and rain is needed soon to prevent a decline in crop conditions. Weekly temperatures averaged 2 to 4 degrees C above normal in Morocco, Algeria, and Tunisia, spurring rapid vegetative growth.

NORTHWEST AFRICA Total Precipitation (mm)
JAN 4 - 10, 1998



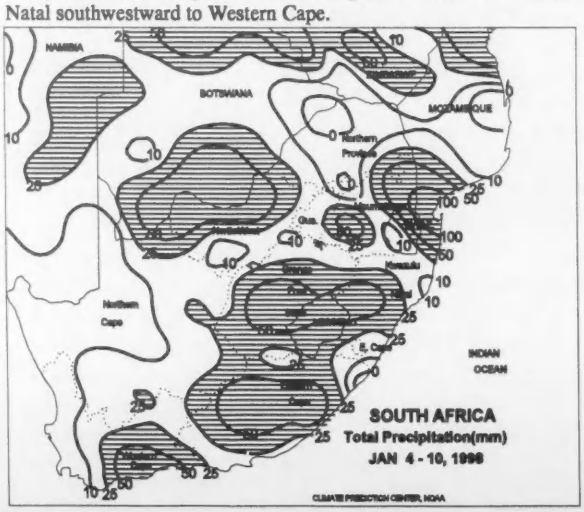
AUSTRALIA

Moderate showers (10-25 mm or more) returned to the primary summer crop region of New South Wales and Queensland's western crop areas. The rain, which began late in the period, had not reached sorghum and cotton areas in eastern Queensland by week's end. Dryness also continued in southern sugarcane areas, but heavy showers (50-100 mm or more) continued at the northern edges of the sugarcane region, due to the persistence of widespread, tropical showers. Temperatures were generally seasonable throughout the east, with highs in the mid 30's C on most farmland. Oppressive heat (highs above 40 C), however, returned to the western grazing lands. In New Zealand, rainfall averaged less than 10 mm in primary agricultural areas.



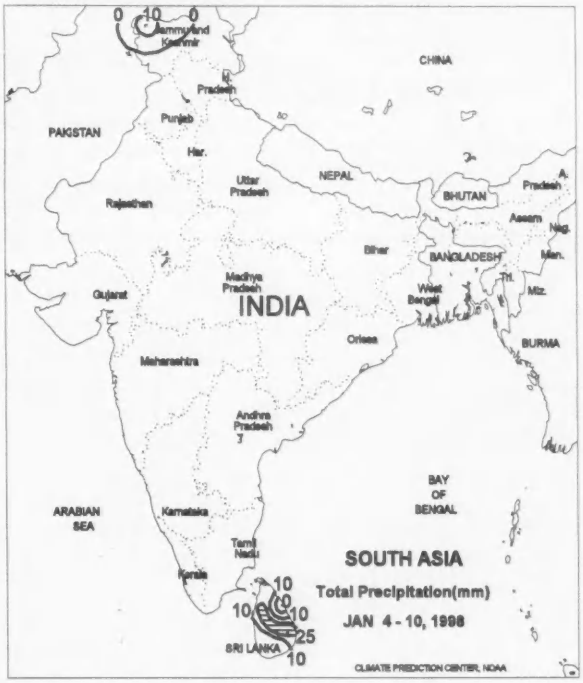
SOUTH AFRICA

Scattered showers continued across the corn belt following last week's beneficial, soaking rain. Many locations received an additional 25 to 50 mm or more of rainfall, further increasing moisture reserves for vegetative to reproductive crops. Temperatures remained at more favorable levels (highs ranging from the mid 20's C in eastern corn areas to the low 30's C in the west), also aiding crop development. South Africa's corn typically advances through reproduction from mid-January to mid-February, making the next few weeks important for determining yield potential. However, late plantings as a result of the recent rainfall would stretch the window for critical development well into March. Elsewhere, light to moderate showers (10-25 mm or more) fell in coastal crop areas from the sugarcane fields of Kwazulu-Natal southwestward to Western Cape.



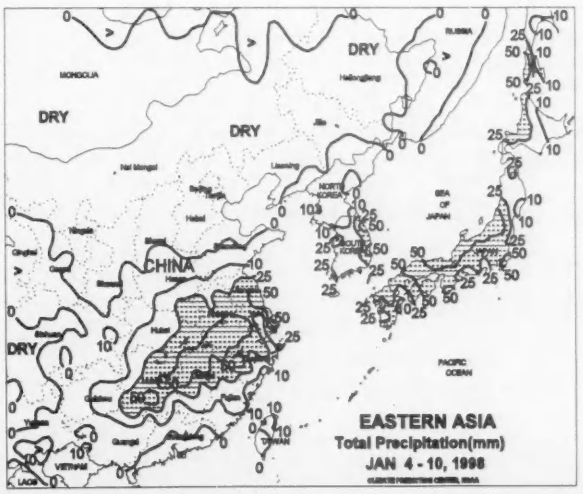
SOUTH ASIA

Seasonable dryness continued across the region. Unlike recent weeks, however, near- to above-normal temperatures across a broad area from central India to Pakistan benefited maturing summer crops along with developing winter grains and oilseeds. Unfortunately, unseasonable coolness shifted to the east (eastern Uttar Pradesh to Bangladesh), slowing growth of winter wheat and secondary rice.



SOUTHEAST ASIA

Widespread showers (20-75 mm, isolated amounts greater than 100 mm) returned to southern Sumatra and Java, aiding main-season rice. Little or no rainfall continued to worsen drought across the northern and western Philippines, stressing second-season crops. Heavy showers (50-100 mm) continued across peninsular Malaysia, causing additional flooding and hampering oil palm fieldwork.



EASTERN ASIA

Winter wheat remained dormant across the North China Plain despite temperatures continuing to average 3 to 4 C degrees C above normal. Widespread rainfall (10-70 mm) continued to benefit winter grains and oilseeds across the Yangtze Valley and interior southern China. Some of this moisture (5-20 mm) reached into the southern North China Plain (southern Henan and northern Ahnui and Jiangsu), boosting moisture supplies for wheat growth next spring.

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Selected 1997 Precipitation Highlights

Record Highest Annual Precipitation (Inches)

Location	Total	Previous/Year
Victoria, TX	67.11	59.57 in 1919

Second-Highest Annual Precipitation (Inches)

Location	Total	Record/Year
Shreveport, LA	69.21	81.99 in 1991

Notes for annual precipitation table on page 14: Over the past few years, implementation of ASOS (automated surface observing systems) across the Nation has resulted in several problems related to precipitation measurement. ASOS was designed to conform to aviation interests, which regard measured precipitation as one of the least important parameters. ASOS' tipping-bucket technology is most prone to error during frozen and freezing precipitation events (snow, sleet, and freezing rain), and simply does not provide accurate water equivalents. Other problems include, but are not limited to, "false tipping" (often 0.01 inches) after a heavy dew; "debris clogging," such as leaves and spider webs, at unmanned sites; and "splash-out" during very heavy rainfall events. Even sites that receive little frozen precipitation have noted serious problems. For example, a recent report from Eugene, OR indicated that the official water-year (October 1, 1996, to September 30, 1997) precipitation was 79.50 inches, while ASOS recorded 59.28 inches during the same period.

National Weather Service Forecast Offices (WFO's) have taken a variety of measures to account for some of these problems. Some, like the WFO in White Lake, MI, no longer publicly release unedited precipitation data from the first-order sites (Detroit's Metro Airport and Flint's Bishop Airport), but transmit quality-controlled data from the WFO site. However, since the White Lake site is new, no normals exist. Other sites, like WFO Gray, ME, have volunteer observers taking official precipitation measurements near the Portland International Jetport site, thus ensuring climate continuity.

As of December 31, 1997, there were 467 commissioned ASOS sites (248 National Weather Service [NWS] sites and 219 Federal Aviation Administration-sponsored sites). The current plan is that at the end of NWS modernization early next century, about 120 ASOS sites will be staffed by NWS employees, and approximately 45 of those will be located at sites with long-term normals. The annual precipitation table (page 14) is comprised mostly of data from ASOS sites. Data are preliminary, but some have been augmented by human observers. Use this data with caution, and contact the National Climatic Data Center (704-271-4800) for final data.

For the future, we are examining several alternatives to solve these problems. The first is that the NWS is exploring possible developments in the ASOS design. The second is the possible increased use of cooperative observing stations in the climatological data base. As these developments occur, we will keep our subscribers apprised of modifications in the data base.

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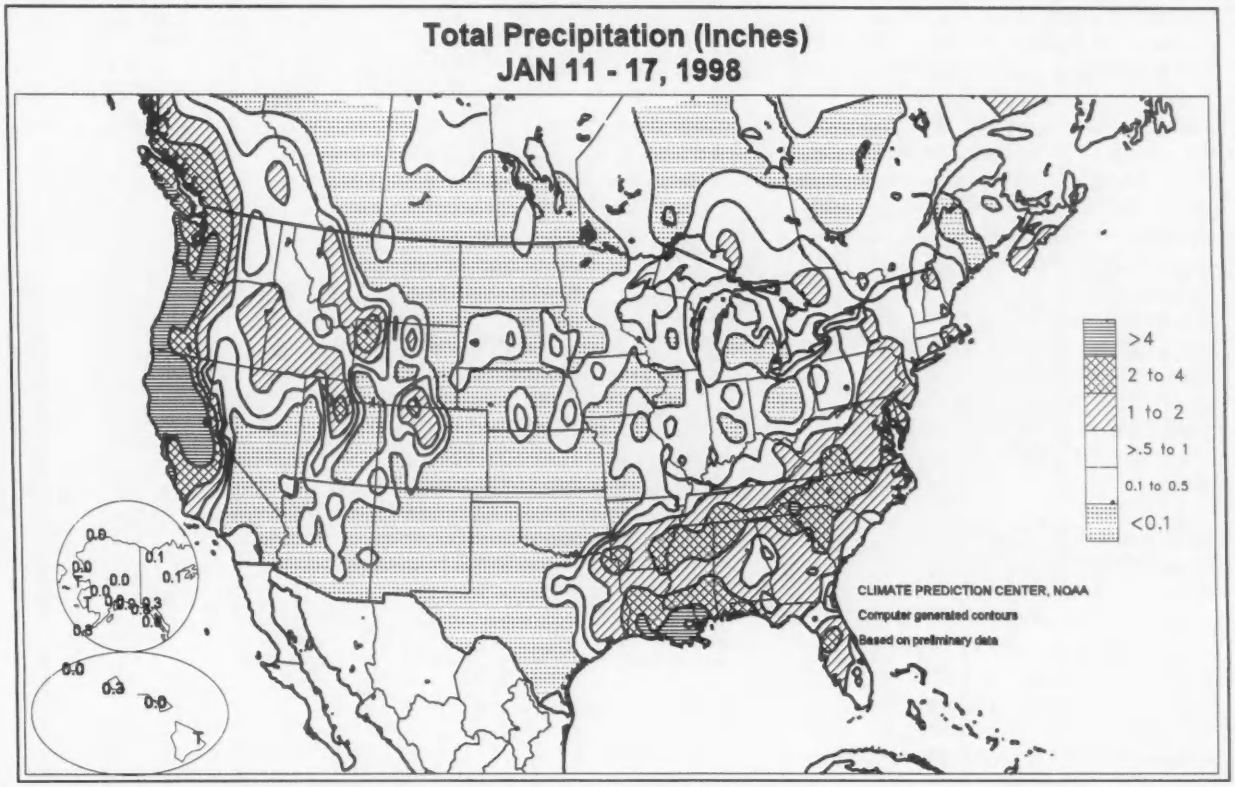

HIGHLIGHTS

January 11 - 17, 1998

Arctic air made its strongest push of the winter into the **northern Plains, Northwest,** and **upper Midwest,** while a series of storms dropped heavy precipitation from **Washington** to **central California.** The storms later traversed the **Southeastern and Atlantic Coast States,** resulting in cloudy, mild weather with periods of rain and snow. Weekly temperatures ranged from 2 to 13°F below normal in the areas engulfed by cold air, but averaged up to 9°F above normal in the **Southeast** and as much as 11°F above normal in the **West.**

(Continued on page 2)

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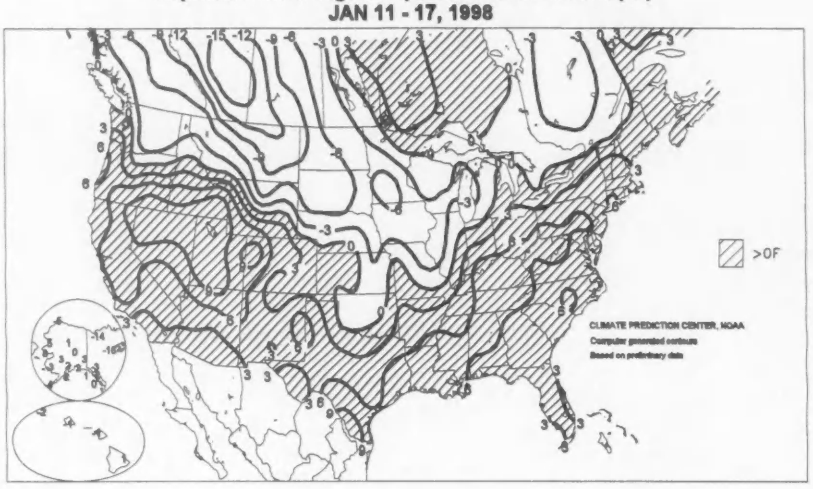
(Continued from front cover)

Early in the week, Pacific moisture overran Arctic air entrenched across the **Northwest**, resulting in snow and freezing rain. January 9-11 snowfall totaled 17 inches in **The Dalles**, OR, 13 inches in **Enterprise, OR**, and 11 inches near **Centralia, WA**. On Monday in **Oregon**, **Portland's** high of 28°F was their lowest on record for the date. Snow also fell across winter wheat areas of **eastern Washington**, but only after low temperatures ranged from -5 to 5°F on January 11-12. **Spokane, WA** registered -2°F on Monday. The procession of storms gradually eroded the cold air, changing snow to heavy rain. **Yakima, WA** recorded 1.84 inches for the week, 23 percent (%) of their normal annual total. Along the **Oregon coastline** on Wednesday, wind gusts were clocked to 82 mph on **Cape Blanco**. Farther south, very heavy precipitation belted **northern and central California**. Along the coast, **Eureka** received 4.59 inches during the week. January 11-17 totals reached 12.87 inches at **Blue Canyon** (**central Sierra Nevada** foothills) and 9.33 inches at **Shasta Dam**, near **Redding**.

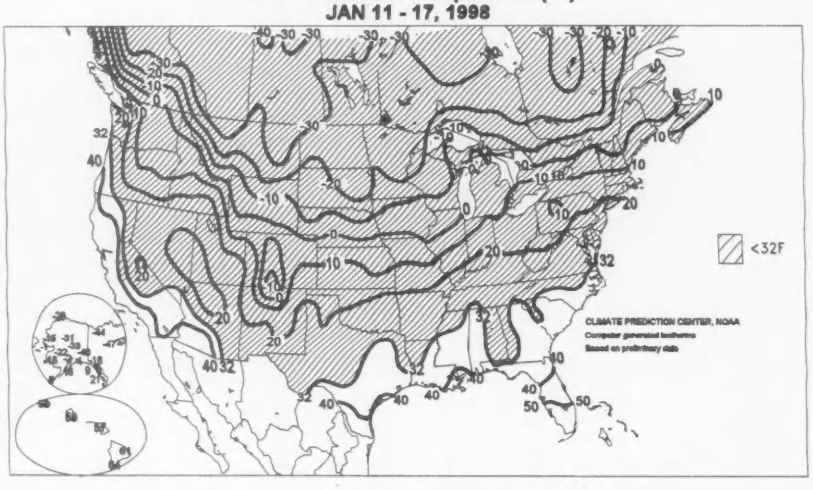
Farther east, 4 to 8 inches of rain soaked the **central Gulf Coast** region. Through January 17, month-to-date rainfall reached 16.04 inches (605% of normal) in **New Orleans, LA** and 13.52 inches (524%) in **Mobile, AL**. Additional wet weather in **central Florida** was highlighted by a daily-record total (2.55 inches on Thursday) in **Daytona Beach**. Meanwhile, **Baltimore, MD** also notched a daily-record rainfall (1.06 inches) for January 15. Inland, up to a half-inch of ice accumulated from the **Middle Atlantic States** to **southern New England**. Meanwhile, January 16-17 snowfall totaled 10 inches in **Haverhill, MA**, and 11 inches at both **Burlington, VT** and **Lake Placid, NY**. During the same period, a small portion of the **northern Delta** also saw heavy snow, with up to 7 inches in **northern Mississippi**. By Friday morning, snow depths stood at 3 inches in **Memphis, TN** and **Tupelo, MS**.

In **Little Rock, AR**, no sun shone on 9 consecutive days from January 6-14. In addition, **Little Rock's** temperature averaged 9.8°F above normal during the first 2 weeks of January, remaining above freezing during that period for the first time since 1907. In **Oklahoma, Tulsa** weathered 10 consecutive days without any sunshine, their longest such period this half-century. The record had been 9 days, set from January 25 - February 2, 1983. **Oklahoma City** experienced only 28 minutes of sun from January 4-14, their least during any 11-day period on record. Both **Oklahoma City** and **Tulsa** recorded less than 5% of the possible sunshine during the first 2 weeks of January.

Departure of Average Temperature from Normal (°F)
JAN 11 - 17, 1998



Extreme Minimum Temperature (°F)
JAN 11 - 17, 1998



Farther north, the early-week cold blast gradually subsided. Nevertheless, lows in **Montana** on Monday plummeted to -40°F in **Jordan** and -35°F, a daily record, in **Miles City**. Snow cover on the **northern Plains'** winter wheat generally ranged from 2 to 4 inches during the coldest weather. On January 11-12, temperatures dipped below 0°F as far south and east as **southern Nebraska**, **southern Iowa**, and **northern Illinois**, the lowest in many cases since late-January 1997. Meanwhile, cold weather eased in **Alaska**, where weekly departures ranged from -5° to +8°F, and dry weather continued in **Hawaii**, allowing for large temperature swings. In **Honolulu**, where December 1 - January 17 rainfall was only 1.19 inches (20% of normal), readings ranged from a daily-record low (59°F) on Sunday to a daily-record high (87°F) on Thursday.

National Weather Data for Selected Cities

Weather Data for the Week Ending January 17, 1998

Data Provided by the Climate Prediction Center (301-763-8000 EXT. 7511) and the Southern Regional Climate Center

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																	TEMP, °F		PRECIP.	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL, IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
AL	BIRMINGHAM	53	40	80	30	47	6	1.11	-0.05	0.68	10.10	127	6.00	210	95	76	0	1	4	1
	HUNTSVILLE	50	39	82	30	44	6	1.75	0.58	1.12	9.59	109	6.29	214	98	80	0	1	6	1
	MOBILE	63	46	86	37	54	5	3.47	2.41	2.07	17.56	222	13.18	503	97	71	0	0	6	2
	MONTGOMERY	58	42	86	31	50	4	0.10	-0.95	0.10	6.24	80	1.73	67	94	70	0	1	1	0
AK	ANCHORAGE	22	10	30	-2	16	1	0.00	-0.18	0.00	1.98	128	0.33	72	84	69	0	7	0	0
	BARROW	-14	-21	-3	-29	-18	-5	0.00	-0.03	0.00	0.08	42	0.00	0	76	71	0	7	0	0
	FAIRBANKS	-2	-19	8	-33	-11	0	0.00	-0.11	0.00	2.05	183	0.00	0	80	68	0	7	0	0
	JUNEAU	27	18	37	8	22	-2	–	–	–	–	–	–	–	93	59	0	7	-	-
	KODIAK	36	28	39	18	32	2	–	–	–	–	–	–	–	94	81	0	4	-	-
	NOME	22	8	36	-1	15	8	0.03	-0.16	0.03	1.74	132	0.79	168	78	51	0	7	1	0
AZ	FLAGSTAFF	43	23	52	11	33	4	0.00	-0.46	0.00	3.12	88	1.27	110	95	53	0	6	0	0
	PHOENIX	65	46	89	43	55	2	0.00	-0.15	0.00	1.18	86	0.35	90	84	40	0	0	0	0
	PRESCOTT	52	30	61	21	41	5	0.00	-0.35	0.00	3.22	131	0.76	87	90	45	0	6	0	0
	TUCSON	65	39	73	34	52	1	0.04	-0.15	0.04	3.04	194	0.16	31	87	36	0	0	1	0
	YUMA	70	49	74	48	59	3	0.01	-0.07	0.01	2.83	429	0.04	20	79	39	0	0	1	0
AR	FORT SMITH	48	34	80	23	41	4	0.04	-0.37	0.03	7.23	178	2.72	254	96	76	0	3	2	0
	LITTLE ROCK	51	36	80	25	43	4	1.09	0.32	0.89	7.62	117	3.87	215	96	71	0	2	4	1
CA	BAKERSFIELD	62	49	85	43	56	8	0.32	0.13	0.23	2.11	199	1.01	230	96	70	0	0	2	0
	EUREKA	59	51	62	48	55	7	4.59	3.19	–	12.53	–	7.80	–	99	79	0	0	8	3
	FRESNO	58	47	64	38	52	7	1.42	0.98	0.65	3.26	133	2.31	220	98	80	0	0	5	1
	LOS ANGELES	62	52	66	48	57	0	0.18	-0.36	0.16	6.41	221	2.67	214	97	79	0	0	2	0
	REDDING	53	47	57	43	50	5	5.52	4.12	1.74	11.07	124	7.81	229	99	89	0	0	7	4
	SACRAM/MCCLELL	58	52	68	46	55	–	2.82	–	0.95	6.90	–	4.45	–	99	87	0	0	5	3
	SAN DIEGO	64	55	65	52	59	2	0.47	0.06	0.22	3.43	132	2.08	208	96	73	0	0	4	0
	SAN FRANCISCO	58	52	63	47	56	7	2.47	1.46	1.23	10.40	190	5.12	214	97	83	0	0	8	2
CO	ALAMOSA	33	-2	37	-10	16	1	0.00	-0.06	0.00	0.19	31	0.00	0	92	55	0	7	0	0
	CO SPRINGS	48	17	55	12	32	4	0.00	-0.06	0.00	0.10	16	0.00	0	80	30	0	7	0	0
	DENVER	44	21	51	15	33	3	0.00	-0.11	0.00	0.59	64	0.00	0	76	42	0	7	0	0
	GRAND JUNCTION	42	29	48	23	35	11	0.03	-0.11	0.03	0.54	57	0.39	118	94	60	0	7	1	0
	PUEBLO	49	18	63	6	32	3	0.06	-0.02	0.06	0.66	105	0.28	140	91	38	0	7	1	0
CT	BRIDGEPORT	40	28	46	22	33	5	0.24	-0.50	0.12	4.22	79	0.87	48	89	63	0	7	2	0
	HARTFORD	36	23	49	16	30	5	0.63	-0.14	0.30	4.17	72	1.98	103	83	50	0	7	3	0
DC	WASHINGTON	45	34	53	28	40	6	0.94	0.33	0.73	3.01	66	1.27	84	81	54	0	2	5	1
DE	WILMINGTON	43	29	50	23	36	6	0.75	0.06	0.65	3.98	76	1.41	82	89	58	0	6	4	1
FL	DAYTONA BEACH	69	50	75	43	60	2	2.57	1.98	2.55	11.90	295	4.14	284	98	61	0	0	2	1
	JACKSONVILLE	67	48	70	37	57	4	0.21	-0.53	0.15	11.23	252	1.49	86	99	63	0	0	4	0
	KEY WEST	76	67	79	55	72	2	1.84	1.37	1.67	6.33	201	1.91	169	87	69	0	0	3	1
	MIAMI	76	63	79	58	70	3	0.24	-0.21	0.24	5.94	203	0.68	63	84	58	0	0	1	0
	ORLANDO	72	53	77	47	63	3	0.43	-0.07	0.40	14.16	423	1.52	128	96	56	0	0	3	0
	TAMPA	72	57	76	50	64	5	0.65	0.22	0.64	17.82	562	2.25	221	93	61	0	0	2	1
	VALPARAISO/EGLIN	64	47	68	34	55	3	4.31	3.36	1.85	10.27	157	4.77	205	96	71	0	0	4	3
	WEST PALM BEACH	76	58	80	50	67	2	0.74	0.11	0.64	6.38	160	1.35	89	90	55	0	0	2	1
GA	ATHENS	53	38	85	33	46	4	1.40	0.35	0.49	9.18	139	3.28	130	97	62	0	0	5	0
	ATLANTA	51	38	81	33	45	4	1.27	0.20	0.69	8.40	121	3.35	129	94	75	0	0	5	1
	AUGUSTA	58	39	86	30	49	5	2.24	1.33	1.66	10.13	182	3.19	147	94	61	0	1	4	1
	COLUMBUS	57	43	86	34	50	5	0.26	-0.77	0.10	8.17	109	1.45	57	96	65	0	0	3	0
	MACON	56	40	86	32	48	3	1.63	0.61	1.02	10.02	148	2.74	110	96	72	0	1	3	1
	SAVANNAH	62	44	71	33	53	4	1.04	0.21	0.87	5.94	120	1.95	99	96	62	0	0	3	1
HI	HILO	81	64	83	61	72	1	0.02	-2.20	0.02	8.96	51	0.11	2	88	58	0	0	1	0
	HONOLULU	82	62	87	59	72	-1	0.29	-0.55	–	1.19	20	0.75	35	89	50	0	0	-	0
	KAHULUI	82	59	84	57	71	-1	0.00	-0.96	0.00	1.83	33	0.33	14	90	55	0	0	0	0
	LIHUE	77	62	80	59	70	-2	0.00	-1.39	0.00	5.71	67	3.12	92	89	59	0	0	0	0
ID	BOISE	43	30	52	24	37	8	1.21	0.88	0.25	2.64	123	1.99	249	93	63	0	4	7	0
	LEWISTON	38	23	54	13	30	-3	0.37	0.07	0.16	1.29	66	0.69	93	88	61	0	6	5	0
	POCATELLO	38	29	44	24	34	11	1.62	1.37	0.77	2.70	159	2.04	340	91	68	0	7	6	1
IL	CHICAGO/O'HARE	27	13	32	-1	20	-1	0.18	-0.17	0.18	3.93	116	2.44	262	87	67	0	7	1	0
	MOLINE	21	9	28	-1	15	-5	0.00	-0.36	0.00	3.45	109	1.69	180	87	70	0	7	0	0
	PEORIA	24	12	30	1	18	-3	0.26	-0.08	0.26	4.44	133	2.50	275	88	69	0	7	1	0
	ROCKFORD	22	9	29	-5	16	-2	0.09	-0.20	0.09	2.32	82	1.49	191	87	68	0	7	1	0
	SPRINGFIELD	28	17	32	6	22	-2	0.24	-0.10	0.23	4.01	110	2.26	246	91	76	0	7	2	0
IN	EVANSVILLE	40	29	58	22	35	5	0.14	-0.45	0.08	4.18	81	1.84	122	88	70	0	6	4	0
	FORT WAYNE	30	21	39	11	25	3	0.36	-0.06	0.15	5.40	135	3.67	331	89	72	0	7	4	0
	INDIANAPOLIS	34	24	45	17	29	4	0.21	-0.31	0.09	3.41	73	2.07	153	88	67	0	7	4	0
	SOUTH BEND	28	16	33	3	22	-1	0.18	-0.33	0.12	5.60	121	3.51	264	91	72	0	7	3	0
IA	BURLINGTON	29	13	40	1	21	–	0.31	0.03	0.28	3.58	131	2.06	275	78	48	0	7	4	0
	CEDAR RAPIDS	20	4	25	-5	12	-6	0.15	-0.08	–	1.76	81	0.60	102	89	67	0	7	2	0
	DES MOINES	22	8	29	-2	15	-4	0.05	-0.17	0.05	1.77	95	0.41	73	87	66	0	7	1	0
	DUBUQUE	20	6	26	-7	13	-3	0.11	-0.17	0.06	1.80	67	0.72	97	84	68	0	6	2	0
	SIOUX CITY	23	8	36	-9	15	-2	0.18	0.06	0.18	0.39	35	0.18	56	86	67	0	7	1	0
	WATERLOO	19	2	23	-7	10	-4	0.06	-0.11	0.03	1.00	57	0.34	74	86	66	0	7	2	0
KS	CONCORDIA	34	17	44	7	25	0	0.04	-0.10	0.04	1.94	164	0.19	56	91	67	0	7	1	0
	DODGE CITY	36	20	47	13	28	-1	0.02	-0.09	0.02	2.85	286	0.06	22	90	65	0	7	1	0
	GOODLAND	38	19	50	8	28	0	0.01	-0.07	0.01	0.55	89	0.01	5	86	57	0	7	1	0
	TOPEKA	32	18	50	6	25	-1	0.07	-0.15	0.05	3.00	151	0.59	105	85	70	0	7	2	0

Based on 1961-90 normals

Weather Data for the Week Ending January 17, 1998

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																	TEMP. °F		PRECIP.	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL, IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
	WICHITA	36	20	50	10	27	-2	0.01	-0.17	0.01	3.18	192	0.53	115	94	74	0	7	1	0
KY	JACKSON	48	33	57	24	39	7	0.79	-0.06	0.25	4.98	76	2.78	131	92	67	0	4	5	0
	LEXINGTON	45	31	55	22	38	7	0.64	0.00	0.34	6.09	108	3.41	207	94	69	0	4	6	0
	LOUISVILLE	45	32	59	25	38	7	0.33	-0.31	0.12	4.91	94	2.39	148	92	67	0	4	5	0
	PADUCAH	42	29	56	25	35	3	0.29	-0.43	0.17	4.65	71	2.19	118	94	71	0	6	5	0
LA	BATON ROUGE	64	49	70	38	57	7	5.58	4.48	4.41	17.95	218	11.64	431	99	71	0	0	4	1
	LAKE CHARLES	65	49	71	34	57	7	2.38	1.34	1.41	13.64	179	7.92	306	99	73	0	0	5	2
	NEW ORLEANS	66	51	69	40	58	7	7.24	6.11	3.84	16.58	218	16.02	580	95	75	0	0	4	3
	SHREVEPORT	61	42	69	29	52	7	0.96	0.08	0.69	10.35	166	4.24	198	96	63	0	1	3	1
ME	CARIBOU	20	-1	32	-8	10	1	0.25	-0.31	0.24	5.06	109	2.26	158	87	60	0	7	2	0
	PORTLAND	31	17	42	10	24	3	0.86	0.06	0.82	6.39	97	3.82	189	82	54	0	7	3	1
MD	BALTIMORE	45	29	53	23	37	5	1.23	0.54	1.06	3.57	70	1.52	89	87	56	0	5	5	1
MA	BOSTON	36	23	47	16	30	1	0.82	0.01	0.55	4.72	79	2.40	120	80	55	0	7	3	1
	WORCESTER	31	19	43	13	25	3	0.66	-0.17	0.27	4.61	75	2.30	112	87	50	0	7	3	0
MI	ALPENA	24	13	29	6	18	1	0.97	0.59	0.39	3.40	114	2.68	279	89	73	0	7	6	0
	GRAND RAPIDS	25	15	32	1	20	-2	0.13	-0.30	0.06	3.59	91	2.62	234	88	77	0	7	3	0
	HOUGHTON LAKE	22	11	27	5	16	0	0.34	-0.01	0.21	2.11	75	1.76	198	88	73	0	7	3	0
	LANSING	26	13	33	0	19	-1	0.24	-0.10	0.19	3.65	113	2.76	310	89	75	0	7	3	0
	MARQUETTE	15	0	25	-11	8	-4	0.56	0.07	–	4.42	114	2.02	160	96	61	0	7	3	0
	MUSKEGON	25	16	32	6	20	-3	0.16	-0.39	0.11	3.20	72	1.98	140	88	73	0	7	2	0
MN	DULUTH	12	-2	26	-20	5	-2	0.14	-0.14	0.07	0.70	35	0.30	42	88	68	0	7	4	0
	INT'L FALLS	13	-5	36	-23	4	4	0.10	-0.10	0.04	0.69	51	0.46	90	84	68	0	7	4	0
	MINNEAPOLIS	15	-4	23	-22	6	-6	0.16	-0.06	0.09	0.65	40	0.34	63	83	65	0	7	4	0
	ROCHESTER	16	-1	22	-12	8	-3	0.13	-0.05	0.12	0.89	60	0.51	113	86	74	0	7	2	0
	ST. CLOUD	11	-7	22	-22	2	-6	0.39	0.22	0.09	0.65	52	0.42	102	86	67	0	7	6	0
MS	JACKSON	60	44	68	36	52	8	1.10	-0.10	0.81	10.34	116	4.56	153	96	64	0	0	2	1
	MERIDIAN	60	41	68	33	50	6	1.94	0.78	1.30	13.31	148	8.60	297	96	67	0	0	4	2
	TUPELO	50	38	58	30	44	4	2.06	0.95	1.19	8.80	98	5.08	180	96	81	0	3	5	2
MO	COLUMBIA	29	20	42	11	25	-3	0.24	-0.08	0.18	3.21	97	1.44	169	92	75	0	7	4	0
	KANSAS CITY	33	20	50	7	26	1	0.00	-0.25	0.00	2.76	124	0.43	86	87	66	0	7	0	0
	SAINT LOUIS	31	20	35	13	26	-3	0.33	-0.07	0.29	4.59	112	2.74	256	94	72	0	7	2	0
	SPRINGFIELD	39	25	52	21	32	1	0.04	-0.38	0.02	5.50	130	2.36	223	96	78	0	7	2	0
MT	BILLINGS	24	9	41	-14	17	-6	0.70	0.48	0.41	1.34	102	0.77	143	80	59	0	6	2	0
	BUTTE	28	4	42	-23	16	0	0.22	0.08	0.15	0.65	81	0.50	152	88	57	0	7	2	0
	GLASGOW	9	-13	41	-33	-2	-12	0.00	-0.08	0.00	0.21	34	0.20	87	82	66	0	7	0	0
	GREAT FALLS	27	6	44	-30	17	-4	0.06	-0.16	0.04	0.59	43	0.26	48	80	53	0	7	2	0
	KALISPELL	25	7	40	-21	16	-4	0.29	-0.07	0.13	1.12	43	0.54	60	84	63	0	7	4	0
	MILES CITY	18	-6	40	-35	6	-9	0.00	-0.13	0.00	0.17	18	0.16	48	83	68	0	7	0	0
	MISSOULA	26	12	41	-9	19	-3	0.33	0.04	0.23	1.33	71	1.00	139	82	66	0	7	5	0
NE	GRAND ISLAND	31	11	45	-3	21	-1	0.04	-0.07	0.04	0.45	46	0.04	15	91	63	0	7	1	0
	LINCOLN	27	7	39	-2	17	-4	0.21	0.10	0.21	1.03	87	0.30	97	92	71	0	7	1	0
	NORFOLK	27	6	39	-8	16	-2	0.10	-0.01	0.10	0.51	50	0.14	48	85	56	0	7	1	0
	NORTH PLATTE	34	8	47	0	21	0	0.09	0.01	0.06	0.30	45	0.11	55	92	56	0	7	3	0
	OMAHA	25	10	36	-1	18	-3	0.29	0.12	–	1.11	75	0.62	135	88	67	0	7	2	0
	SCOTTSBLUFF	33	9	50	-8	21	-3	0.10	-0.01	0.08	0.50	60	0.18	67	89	59	0	7	2	0
	VALENTINE	26	3	44	-10	15	-4	0.10	0.04	0.05	0.13	25	0.10	71	91	65	0	7	3	0
NV	ELY	39	25	50	12	32	8	0.16	-0.01	0.08	0.44	39	0.21	53	92	60	0	7	4	0
	LAS VEGAS	57	43	63	37	50	5	0.00	-0.11	0.00	0.26	41	0.19	70	76	43	0	0	0	0
	RENO	51	34	58	27	42	10	0.22	-0.03	0.15	1.06	67	0.48	80	90	57	0	2	3	0
	WINNEMUCCA	46	34	56	27	40	11	0.97	0.80	0.31	1.66	128	1.42	330	92	64	0	3	5	0
NH	CONCORD	32	18	41	11	25	6	0.65	0.09	0.32	4.21	92	2.26	160	84	45	0	7	3	0
NJ	NEWARK	42	30	50	24	36	5	0.85	0.08	0.69	6.50	122	2.34	124	78	50	0	4	3	1
NM	ALBUQUERQUE	49	27	54	22	38	4	0.12	0.01	0.12	1.16	153	0.16	59	83	39	0	7	1	0
NY	ALBANY	30	19	41	13	25	4	0.16	-0.38	0.09	3.63	85	2.15	160	91	67	0	7	3	0
	BINGHAMTON	32	19	38	12	25	4	0.51	-0.03	0.17	5.35	122	2.54	185	91	68	0	7	4	0
	BUFFALO	31	18	46	13	24	1	0.78	0.16	0.59	7.35	140	4.40	278	87	67	0	7	4	1
	ROCHESTER	31	19	42	16	25	2	0.62	0.15	0.41	7.30	187	4.43	372	87	69	0	7	5	0
	SYRACUSE	31	18	43	10	24	2	1.27	0.74	0.57	7.77	170	3.66	269	89	67	0	7	6	1
NC	ASHEVILLE	50	35	58	32	42	7	1.85	1.13	1.14	9.75	185	6.77	387	98	64	0	2	4	2
	CHARLOTTE	52	38	63	34	45	6	1.72	0.89	1.01	7.06	129	2.98	148	89	65	0	0	4	2
	GREENSBORO	49	35	62	31	42	6	1.46	0.74	1.22	6.07	119	3.90	223	91	60	0	2	4	1
	HATTERAS	53	44	60	37	49	4	3.38	2.17	2.11	9.32	124	3.67	125	99	84	0	0	3	1
	RALEIGH	50	38	59	30	44	5	2.42	1.64	1.47	6.35	124	3.60	191	90	61	0	1	4	2
	WILMINGTON	58	41	66	35	50	5	0.61	-0.27	0.36	7.36	128	2.52	118	95	63	0	0	3	0
ND	BISMARCK	10	-7	21	-23	1	-7	0.05	-0.06	0.03	0.13	17	0.05	19	83	66	0	7	2	0
	DICKINSON	17	-5	43	-19	6	-7	0.02	-0.06	0.02	0.06	11	0.03	15	82	62	0	7	1	0
	FARGO	10	-4	29	-21	3	-3	0.03	-0.14	0.02	0.74	71	0.30	75	77	63	0	7	2	0
	GRAND FORKS	5	-8	17	-24	0	-4	0.02	-0.15	0.02	0.74	71	0.18	45	81	71	0	7	1	0
	JAMESTOWN	7	-1	18	-15	3	-4	0.08	-0.06	0.05	0.42	51	0.14	42	90	79	0	7	3	0
	WILLISTON	9	-16	37	-32	-3	-12	0.07	-0.05	0.04	0.14	16	0.12	39	80	66	0	7	2	0
OH	AKRON-CANTON	36	21	46	10	28	4	0.26	-0.23	0.17	5.20	124	3.13	250	92	65	0	7	3	0
	CINCINNATI	40	27	53	19	34	6	0.33	-0.25	0.12	5.61	121	2.83	194	95	63	0	6	5	0
	CLEVELAND	35	22	47	16	28	4	0.26	-0.20	0.19	5.67	132	3.23	271	91	68	0	7	4	0
	COLUMBUS	40	26	49	15	33	7	0.19	-0.30	0.08	4.14	101	2.01	161	89	57	0	6	3	0
	DAYTON	36	24	49	13	30	4	0.13	-0.35	0.04	5.05	121	2.89	235	91	60	0	7	5	0
	MANSFIELD	35	20	46	7	28	3	0.22	-0.23	0.09	5.02	118	2.70	231	88	67	0	7	4	0

Based on 1961-90 normals

Weather Data for the Week Ending January 17, 1998

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																	TEMP, °F		PRECIP.	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL, IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
	TOLEDO	31	20	40	10	25	3	0.25	-0.15	0.12	4.60	115	2.52	238	89	67	0	7	4	0
	YOUNGSTOWN	35	21	47	12	28	5	0.38	-0.10	0.23	6.46	155	3.75	302	88	64	0	7	3	0
OK	OKLAHOMA CITY	42	27	58	22	35	-1	0.00	-0.25	0.00	4.41	223	2.40	414	95	73	0	7	0	0
	TULSA	39	28	58	25	34	-1	0.08	-0.25	0.04	7.05	233	2.76	321	96	75	0	7	3	0
OR	ASTORIA	51	41	55	32	46	4	4.81	2.51	1.22	18.21	112	9.77	171	93	79	0	1	7	5
	BURNS	39	24	43	19	32	9	1.10	0.88	0.35	2.41	140	1.51	265	97	74	0	6	7	0
	EUGENE	53	40	57	31	47	6	3.55	1.72	0.91	7.38	56	5.15	113	88	71	0	1	7	3
	MEDFORD	52	40	57	36	46	9	2.01	1.39	1.18	4.70	96	3.35	212	96	67	0	0	6	1
	PENDLETON	38	22	55	5	30	-3	0.97	0.62	0.26	2.53	102	1.48	170	91	69	0	6	5	0
	PORTLAND	43	34	56	24	38	-1	2.39	1.15	0.78	7.52	81	4.50	145	93	79	0	3	7	2
	SALEM	49	39	56	26	44	5	3.39	2.03	0.91	8.22	80	5.06	148	87	58	0	2	7	4
PA	ALLENTOWN	39	26	48	18	33	6	0.58	-0.14	0.55	4.07	77	1.70	98	83	53	0	6	3	1
	ERIE	35	23	49	17	29	4	0.42	-0.08	0.29	9.00	183	4.13	315	90	66	0	7	4	0
	MIDDLETOWN	41	28	50	23	35	6	1.01	0.38	--	4.67	98	2.66	174	83	50	0	5	3	1
	PHILADELPHIA	44	31	50	25	37	7	0.57	-0.17	0.51	4.44	85	1.35	75	89	62	0	4	4	1
	PITTSBURGH	40	25	50	14	32	6	0.34	-0.24	0.20	4.36	100	3.07	213	92	58	0	7	3	0
	SCRANTON	34	23	37	16	28	6	0.71	0.29	0.62	4.58	126	2.33	208	93	69	0	5	3	0
	WILLIAMSPORT	36	25	44	18	31	6	0.47	-0.10	0.26	2.41	54	0.95	67	88	54	0	7	4	0
RI	PROVIDENCE	37	23	49	17	30	2	1.11	0.23	0.49	5.88	89	3.05	139	83	53	0	7	3	0
SC	BEAUFORT	60	44	70	34	52	4	0.54	-0.31	0.38	5.50	105	1.57	76	98	66	0	0	3	0
	CHARLESTON	60	44	66	37	52	4	0.40	-0.39	0.30	7.16	142	1.98	105	97	63	0	0	4	0
	COLUMBIA	56	36	65	31	47	3	1.47	0.46	0.98	7.53	125	3.14	130	98	60	0	1	4	1
	GREENVILLE	53	37	62	32	45	5	1.50	0.59	0.73	8.13	127	3.88	173	97	63	0	2	4	2
SD	ABERDEEN	12	-6	25	-31	3	-8	0.28	0.20	0.15	0.50	83	0.32	160	83	69	0	7	4	0
	HURON	15	-2	30	-25	7	-6	0.04	-0.04	0.04	0.27	40	0.05	25	82	65	0	7	1	0
	RAPID CITY	25	4	45	-11	15	-7	0.09	0.01	0.04	0.17	25	0.09	45	90	61	0	7	5	0
	SIOUX FALLS	19	-1	32	-20	9	-4	0.15	0.04	0.09	0.43	43	0.18	62	86	66	0	7	3	0
TN	BRISTOL	48	35	55	29	41	8	0.57	-0.15	0.39	4.26	83	2.09	118	99	72	0	2	5	0
	CHATTANOOGA	49	39	59	31	44	7	2.17	1.06	1.43	9.46	120	6.16	226	95	77	0	1	6	1
	KNOXVILLE	48	39	56	32	44	8	1.10	0.16	0.57	4.58	66	2.21	94	94	76	0	1	6	1
	MEMPHIS	50	37	61	27	44	4	1.83	1.00	1.03	10.19	129	5.66	262	94	77	0	3	3	2
	NASHVILLE	49	37	61	30	43	7	0.75	-0.06	0.50	4.97	75	2.78	136	93	73	0	1	4	1
TX	ABILENE	62	32	73	23	47	4	0.00	-0.22	0.00	3.30	212	0.14	26	89	40	0	3	0	0
	AMARILLO	52	24	60	19	38	4	0.00	-0.11	0.00	2.79	410	0.67	248	86	42	0	7	0	0
	AUSTIN	65	44	74	37	54	6	0.02	-0.38	0.02	5.85	210	1.60	178	92	62	0	0	1	0
	BEAUMONT	66	50	76	34	58	8	0.75	-0.35	0.67	10.39	139	3.77	139	99	75	0	0	4	1
	BROWNSVILLE	75	57	80	43	66	7	0.24	-0.12	0.22	0.82	39	0.37	44	98	67	0	0	3	0
	CORPUS CHRISTI	72	50	81	34	61	6	0.08	-0.30	0.08	0.62	29	0.42	48	98	63	0	0	1	0
	DEL RIO	72	43	78	37	58	8	0.01	-0.10	0.01	0.63	71	0.04	15	85	29	0	0	1	0
	EL PASO	61	34	68	25	48	5	0.00	-0.08	0.00	1.45	177	0.04	17	69	33	0	3	0	0
	FORT WORTH	55	36	68	32	46	3	0.56	0.15	0.56	11.85	416	4.92	497	94	61	0	2	1	1
	GALVESTON	64	55	70	43	60	7	0.04	-0.72	0.02	9.49	175	4.60	245	97	78	0	0	3	0
	HOUSTON	67	47	75	34	57	7	0.45	-0.29	0.19	9.28	175	3.86	210	96	63	0	0	4	0
	LUBBOCK	58	27	69	19	43	4	0.00	-0.08	0.00	1.75	236	0.00	0	78	31	0	7	0	0
	MIDLAND	63	32	73	26	48	5	0.00	-0.08	0.00	1.36	177	0.01	5	81	28	0	4	0	0
	SAN ANGELO	67	32	75	27	49	6	0.01	-0.16	0.01	1.43	121	0.04	10	88	29	0	4	1	0
	SAN ANTONIO	68	45	74	34	56	7	0.02	-0.37	0.01	4.72	197	1.16	129	90	53	0	0	2	0
	VICTORIA	68	48	78	40	58	6	0.10	-0.40	0.08	2.29	71	0.66	55	97	63	0	0	3	0
	WACO	60	40	72	33	50	5	0.03	-0.33	0.01	15.76	579	5.94	683	92	61	0	0	3	0
	WICHITA FALLS	50	31	63	23	40	1	0.00	-0.22	0.00	5.34	295	1.22	230	93	61	0	4	0	0
UT	SALT LAKE CITY	46	32	56	27	39	11	0.72	0.47	0.27	1.86	91	1.23	195	94	60	0	4	6	0
VT	BURLINGTON	24	10	39	3	17	1	0.77	0.36	0.40	4.90	141	3.25	307	85	56	0	7	4	0
VA	LYNCHBURG	46	32	61	26	39	5	0.63	0.00	0.35	5.38	111	2.66	168	94	56	0	3	4	0
	NORFOLK	50	39	58	33	45	6	2.65	1.80	1.21	5.36	101	2.71	132	93	72	0	0	4	2
	RICHMOND	46	33	60	28	39	4	1.34	0.60	0.84	4.55	90	2.19	121	89	64	0	3	5	1
	ROANOKE	46	33	59	26	39	5	1.44	0.86	1.10	6.14	140	3.77	264	89	59	0	2	5	1
	WASH/DULLES	43	29	53	25	36	5	1.03	0.42	0.82	3.40	72	1.48	98	91	54	0	6	4	1
WA	HANFORD	34	20	55	7	27	--	0.71	0.53	0.34	1.26	89	0.95	244	91	62	0	6	4	0
	OLYMPIA	44	34	51	25	39	1	3.77	1.92	1.14	13.27	105	7.13	156	98	82	0	2	7	3
	QUILLAYUTE	45	36	52	23	41	1	3.77	0.49	1.54	21.63	92	6.13	76	92	74	0	2	6	2
	SEATTLE-TACOMA	44	35	51	23	39	0	1.65	0.41	0.86	6.50	72	3.87	125	88	67	0	3	6	1
	SPOKANE	29	17	44	-2	23	-4	0.71	0.25	0.51	1.96	55	0.95	83	91	76	0	7	4	1
	YAKIMA	30	14	52	0	22	-7	1.84	1.56	--	2.34	111	2.15	307	92	70	0	7	-	-
WV	BECKLEY	41	28	46	19	34	6	0.80	0.14	0.35	4.03	83	1.83	112	99	72	0	6	4	0
	CHARLESTON	48	32	53	21	39	7	0.67	0.01	0.30	3.48	69	1.91	117	97	69	0	4	4	0
	ELKINS	44	28	49	15	36	9	0.74	0.04	0.33	5.20	99	2.67	153	94	64	0	4	4	0
	HUNTINGTON	45	32	53	22	38	6	0.83	0.19	0.36	4.94	100	3.38	213	92	66	0	3	4	0
WI	EAU CLAIRE	15	0	26	-19	8	-3	0.59	0.37	0.36	1.27	76	1.03	181	89	72	0	7	4	0
	GREEN BAY	18	5	28	-11	12	-2	0.36	0.12	0.27	1.97	90	1.37	204	86	71	0	7	3	0
	MADISON	19	5	28	-7	12	-3	0.24	0.00	0.23	2.67	108	1.42	218	90	66	0	7	2	0
	MILWAUKEE	23	11	29	-4	17	-1	0.44	0.07	0.31	3.52	107	2.20	232	86	66	0	7	4	0
WY	CASPER	28	10	44	-9	19	-3	0.15	0.03	0.12	1.13	115	0.17	53	85	60	0	7	4	0
	CHEYENNE	41	18	45	0	29	3	0.00	-0.08	0.00	0.66	108	0.07	35	78	42	0	7	0	0
	LANDER	31	7	42	-2	19	0	0.06	-0.05	0.04	1.91	230	0.06	22	78	54	0	7	3	0
	SHERIDAN	24	3	37	-19	13	-7	0.26	0.09	0.21	1.04	92	0.26	65	86	67	0	7	3	0

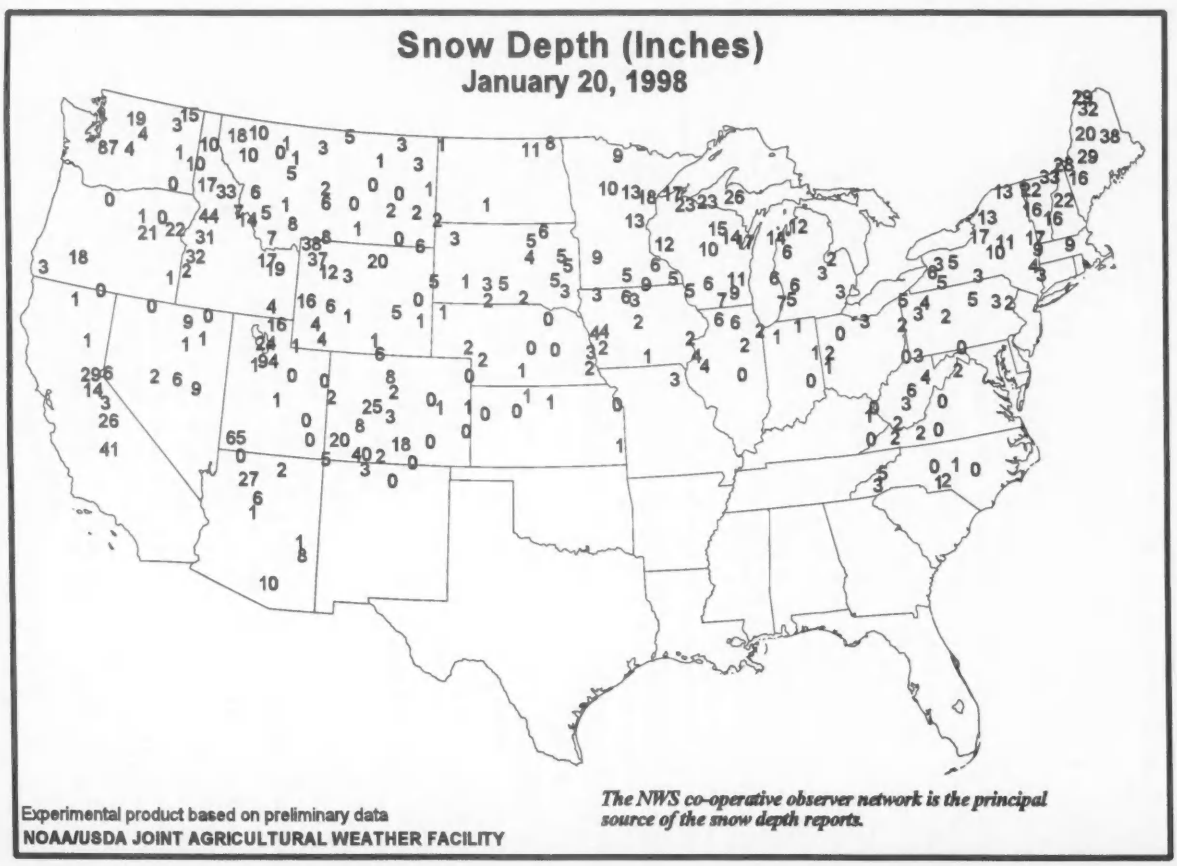
NOTE: These data are preliminary and subject to change. In the past, precipitation totals from a number of stations have been incomplete.

National Agricultural Summary

January 12 - 18, 1998

HIGHLIGHTS

Mild temperatures prevailed over most of the United States, except for early-week bitterly cold weather along the Northern Tier States and upper Midwest. New England farmers, especially dairymen, had difficulty recovering from the previous week's severe ice storm. Field activities along the Pacific Coast were hampered again this week by an onslaught of storms bringing snow, ice, and rain. In northern California, over 4 inches of rain fell in many locations, halting fieldwork. The preparation for, and planting of, spring vegetable crops continued where weather and soils permitted. The storms tracked eastward, bringing precipitation into the central and northern Rocky Mountain States. Little precipitation fell in the Plains while limited amounts fell in the Corn Belt. High winds sapped soil moisture in some parts of the southern Plains, but most areas still have ample moisture supplies. On the Texas High Plains, adequate moisture from previous rainfall and mild temperatures prompted good winter wheat growth, and most fields provided excellent grazing. In the Southeast, wet weather continued as storms again brought precipitation to the region, especially in eastern Louisiana, where month-to-date rainfall totals over 600 percent of the normal amount in New Orleans. Late-week rain fell in all Florida citrus areas and slowed some harvest crews. Wet fields continued to delay some field preparations for spring vegetable planting.


Snow Depth (Inches)
January 20, 1998
Experimental product based on preliminary data
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
The NWS co-operative observer network is the principal source of the snow depth reports.

International Weather and Crop Summary

January 11 - 17, 1998

HIGHLIGHTS

FSU-WESTERN: Snow cover continued to diminish in Ukraine, Belarus, and the Baltics, leaving winter grains vulnerable to potential extreme cold.

EUROPE: Unseasonably mild weather continued over the region, keeping most winter grain areas snow free and likely prompting some greening of crops in the north and east.

NORTHWESTERN AFRICA: Light, scattered precipitation dampened winter grain areas in Morocco, Algeria, and Tunisia.

SOUTHEAST ASIA: Widespread showers favored rice in southern Sumatra and Java, while drought continued across the northern and western Philippines.

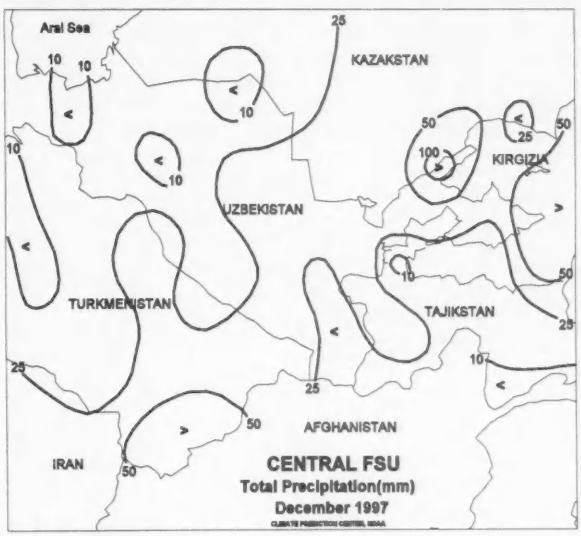
SOUTH AFRICA: Drier weather returned to the corn belt, aiding corn growth.

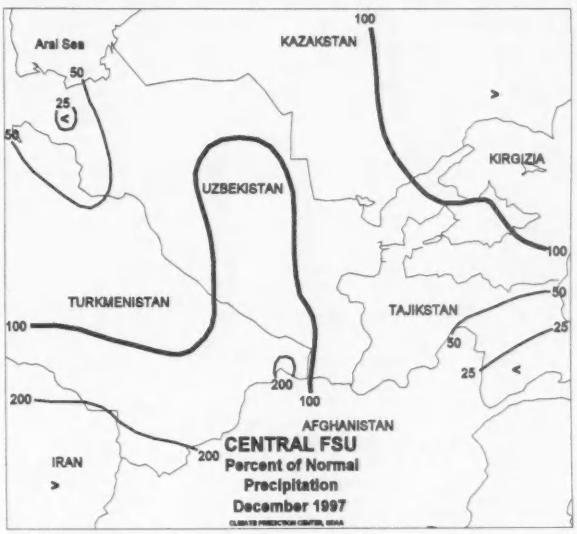
SOUTH AMERICA: Excellent weather continued in central Argentina, while more rain is needed in Mato Grosso do Sul, Brazil.

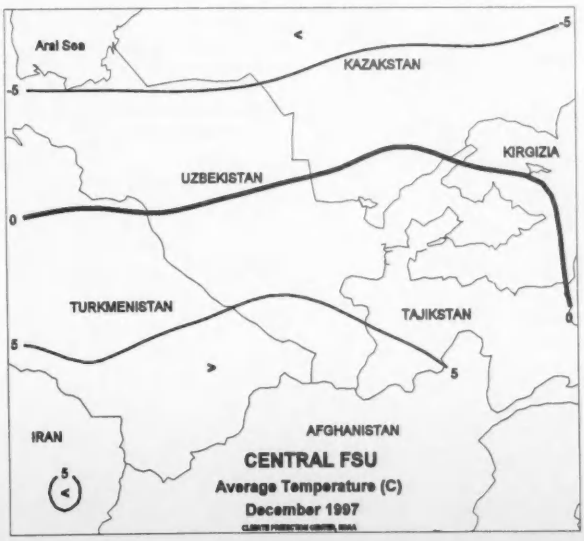
AUSTRALIA: A tropical cyclone contributed to the east's locally heavy rainfall.

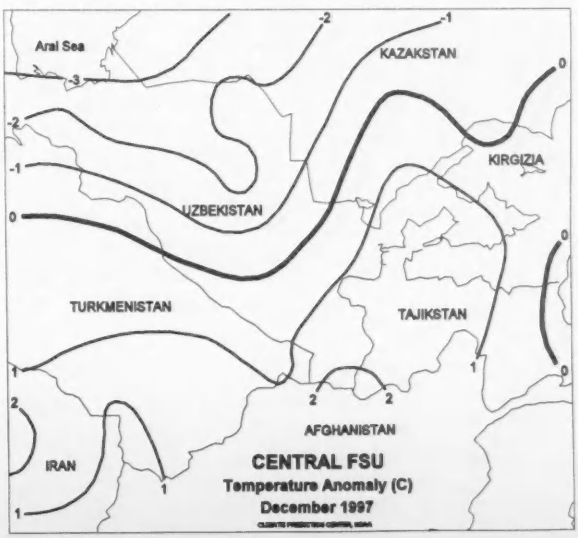
CHINA: Seasonably cool weather kept winter wheat dormant across the North China Plain.

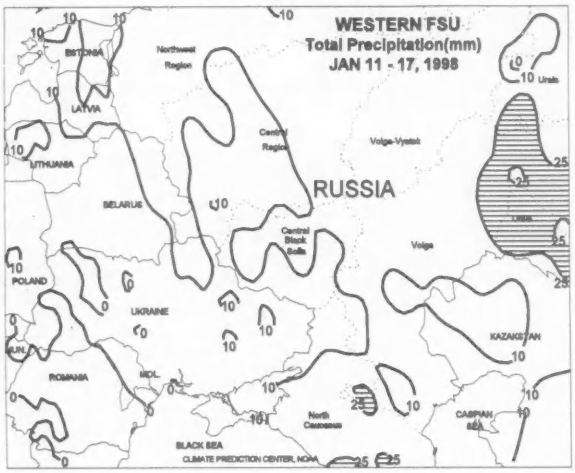
SOUTH ASIA: Seasonable warmth and dryness continued throughout the region.





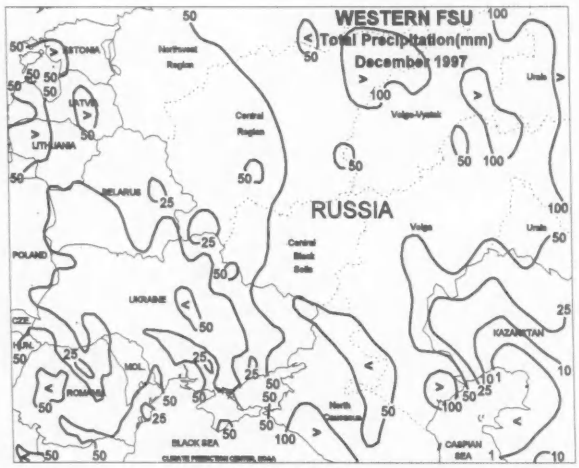


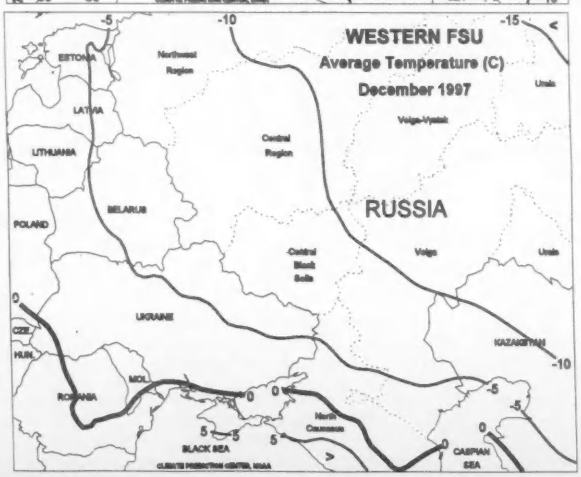


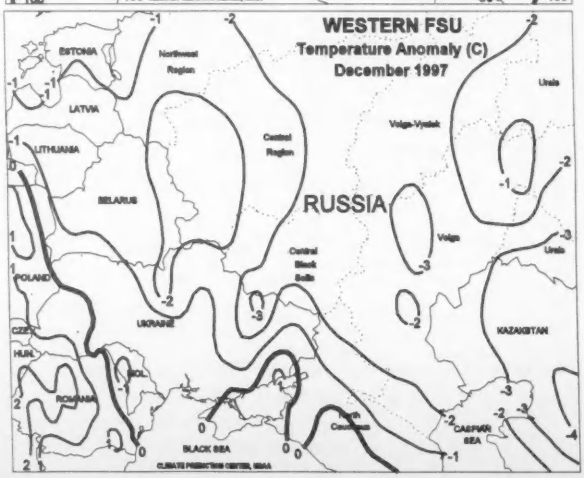


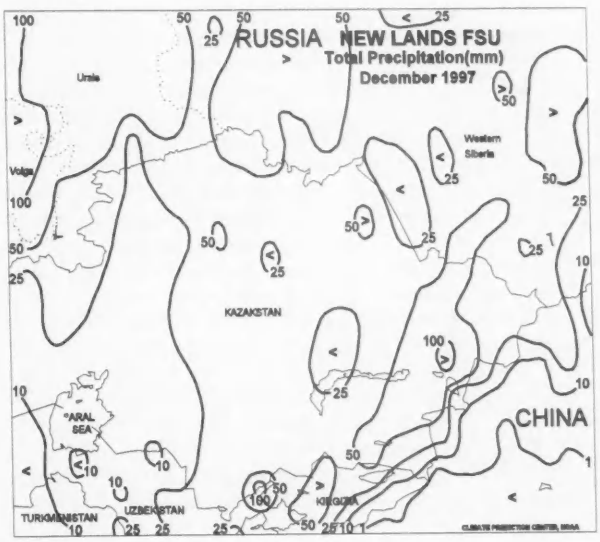
FSU-WESTERN

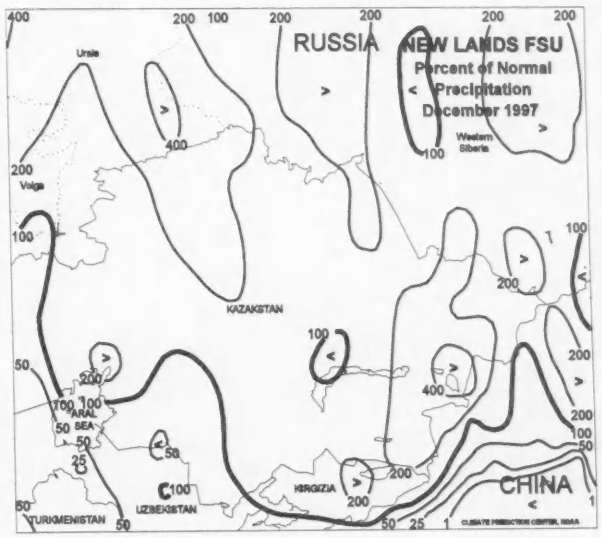
The third consecutive week of unusually mild weather (weekly temperatures averaging 3 to 9 degrees C above normal) maintained favorable overwintering conditions for winter grains in Ukraine, the Baltics, and Belarus. Winter wheat in most of Ukraine, the Baltics, and Belarus remained snow free during the week. At week's end, much colder weather spread west and south over winter grains in Russia and extreme eastern Ukraine. Minimum temperatures dropped to as low as -27 degrees C in northeastern crop areas of Russia. Temperatures in major winter wheat-producing areas in southern Russia ranged from -6 to -19 degrees C. In most areas, snow (4-20 mm liquid equivalent) accompanied the cold snap, providing a fresh layer of protective snow cover over winter grains. In December, above-normal precipitation fell in Russia, Ukraine, Belarus, and Lithuania, increasing moisture reserves. During December 15-18, temperatures fell sharply in most areas, threatening winter grains. Lowest temperatures during the period ranged from -17 C to less than -30 C, exceeding the threshold for potential winterkill. Temperatures as low as -33 C were observed in eastern Ukraine and central Russia near Moscow. An adequate snow cover protected winter grains from the Baltics eastward through most of northern Russia as well as the northern half of Ukraine. However, snow cover in key winter wheat-producing areas in the southern half of Ukraine and southern Russia (southern and central North Caucasus region, and lower Volga Valley) was thin or patchy. Winter grains, especially winter barley, likely sustained some damage in these vulnerable areas. However, the full extent of the damage will not be apparent until crops begin breaking dormancy in the spring. Beginning on December 19, temperatures moderated quickly, improving overwintering conditions.

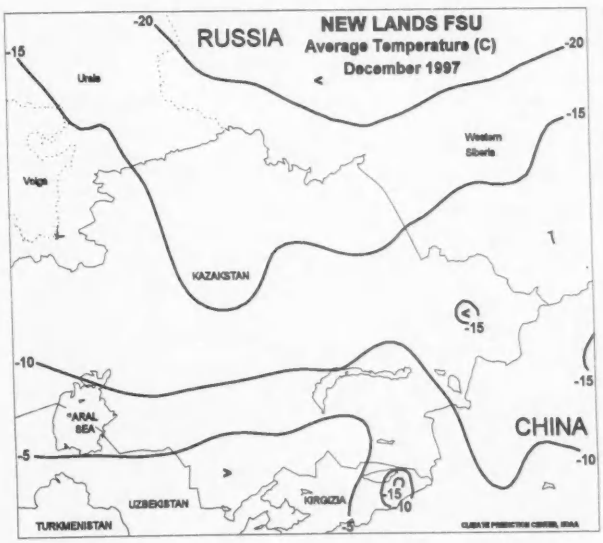


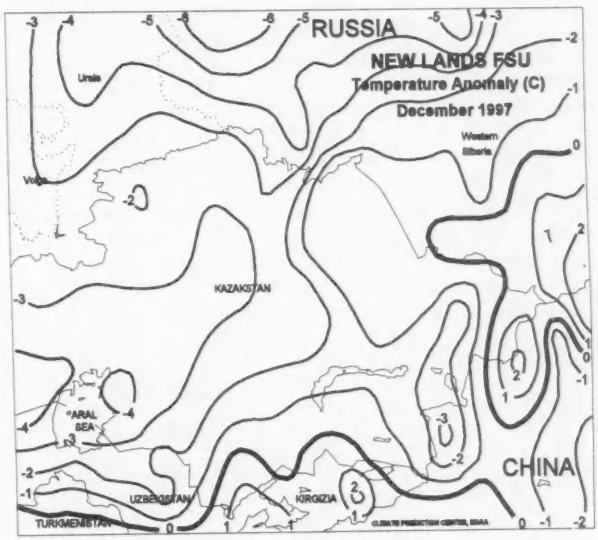





RUSSIA
NEW LANDS FSU
Total Precipitation(mm)
December 1997
Urals
Volga
Western Siberia
KAZAKSTAN
ARAL SEA
CHINA
TURKMENISTAN
UZBEKISTAN
KIRGIZIA

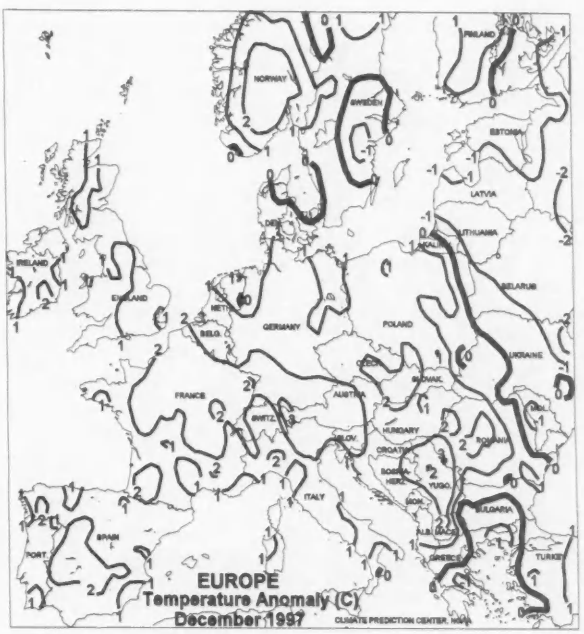

RUSSIA
NEW LANDS FSU
Percent of Normal Precipitation
December 1997
Urals
Volga
Western Siberia
KAZAKSTAN
ARAL SEA
CHINA
TURKMENISTAN
UZBEKISTAN
KIRGIZIA

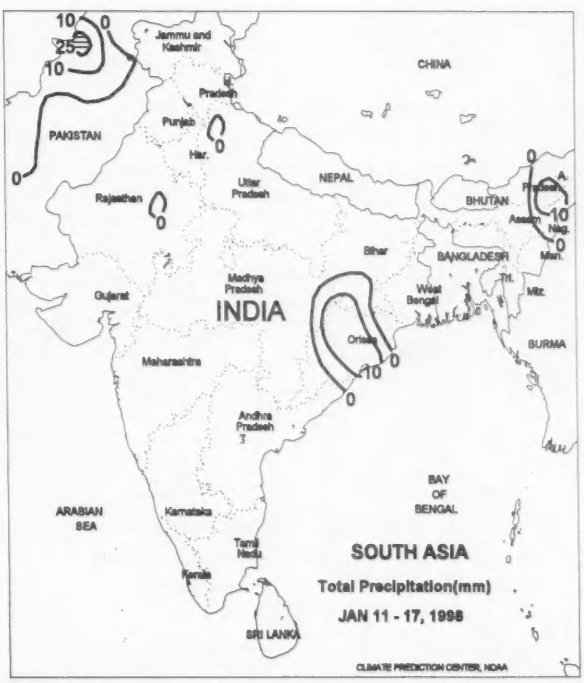

RUSSIA
NEW LANDS FSU
Average Temperature (C)
December 1997
Urals
Volga
Western Siberia
KAZAKSTAN
ARAL SEA
CHINA
TURKMENISTAN
UZBEKISTAN
KIRGIZIA


RUSSIA
NEW LANDS FSU
Temperature Anomaly (C)
December 1997
Urals
Volga
Western Siberia
KAZAKSTAN
ARAL SEA
CHINA
TURKMENISTAN
UZBEKISTAN
KIRGIZIA

EUROPE

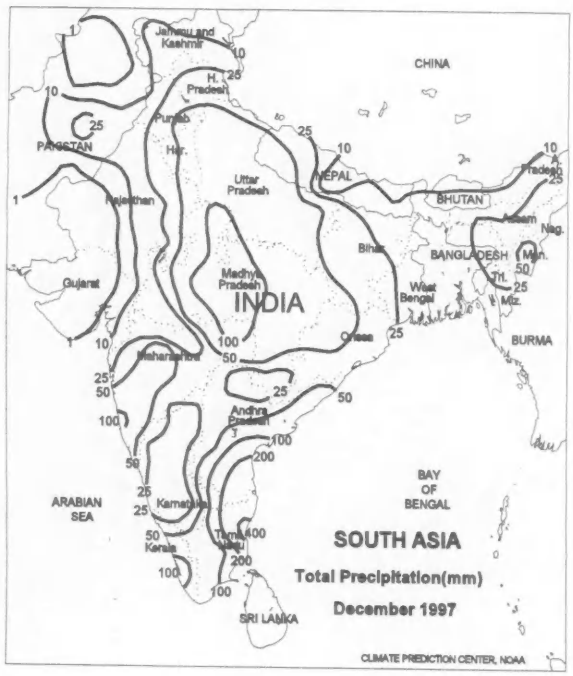
High pressure dominated the region early in the week but weakened with a transition to a stormier pattern, especially in the west. Widespread light to moderate precipitation (10-25 mm, with local amounts in excess of 25 mm) fell mainly as rain in the United Kingdom, France, western Germany, Portugal, western Spain, and northern Italy. In eastern Europe, light scattered precipitation (less than 10 mm) fell in Poland and the Czech Republic, while mostly dry weather prevailed farther south in southeastern Europe. Unseasonably mild weather continued over most winter grain areas in Europe, with weekly temperatures averaging 3 to 6 degrees C below normal. The continued mild weather in Europe has diminished protective snow cover in most areas and may have prompted some greening of crops in the north and east. In December, above-normal precipitation fell in most of Europe, boosting soil moisture reserves. Greatest amounts of precipitation (100-200 mm, with locally greater amounts) fell in Portugal and southern Spain, causing some flooding and delays in winter grain planting. There was a period of bitterly cold weather from December 16 to 19 that threatened winter grains in eastern Europe. Extreme minimum temperatures ranged from -15 to -19 degrees C in most of Poland, southern and eastern Romania, and Bulgaria. Temperatures below -19 degrees C were restricted to extreme eastern Poland and small areas in southeastern Romania and Bulgaria. While temperatures in these areas approached the threshold for potential winterkill, extreme cold was of short duration and was preceded by snow, minimizing the threat for widespread damage.





SOUTH ASIA

Seasonable dryness maintained generally favorable conditions for cotton and other mature summer crops. Temperatures averaged near to above normal in most areas, promoting winter grain and oilseed development. In December, persistent, unseasonable shower activity finally subsided over central India. However, a significant portion of the region received an additional 25 to 100 mm of rainfall (4-10 times the normal amount) early in the month, hampering seasonal fieldwork and keeping mature cotton, oilseeds, and coarse grains unfavorably wet. Below-normal temperatures associated with the wetness slowed early winter grain development from central India to Pakistan. Weekly coverage of South Asia will resume in June with the arrival of the southwest monsoon. A monthly summary will appear in the interim, coinciding with the publication of monthly analyses in the *Weekly Weather and Crop Bulletin*.


CHINA
PAKISTAN
INDIA
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BHUTAN
BANGLADESH
BURMA
SRI LANKA
ARABIAN SEA
BAY OF BENGAL
Jammu and Kashmir
H. Pradesh
Punjab
Har.
Rajasthan
Uttar Pradesh
Bihar
West Bengal
Assam
Nag.
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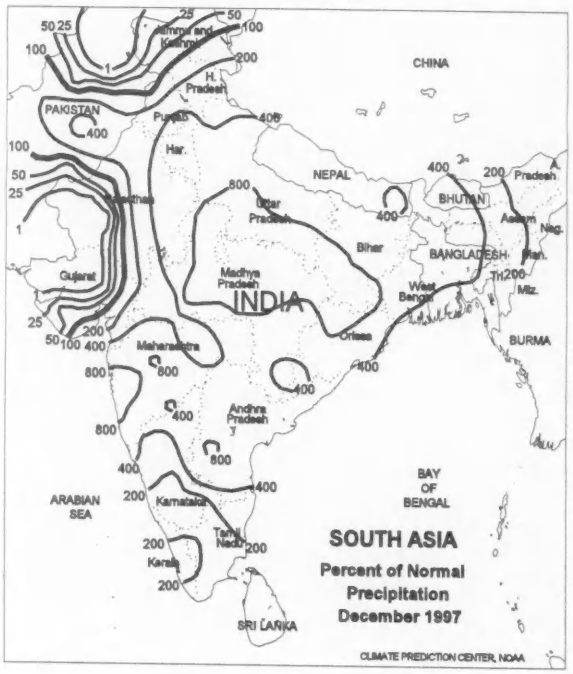
Tri.
Miz.
Gujarat
Madhya Pradesh
Maharashtra
Orissa
Andhra Pradesh
Karnataka
Tamil Nadu
Kerala
SOUTH ASIA
Total Precipitation(mm)
December 1997
CLIMATE PREDICTION CENTER, NOAA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BAY OF BENGAL
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Punjab
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Uttar Pradesh
Bihar
West Bengal
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Gujarat
Madhya Pradesh
Maharashtra
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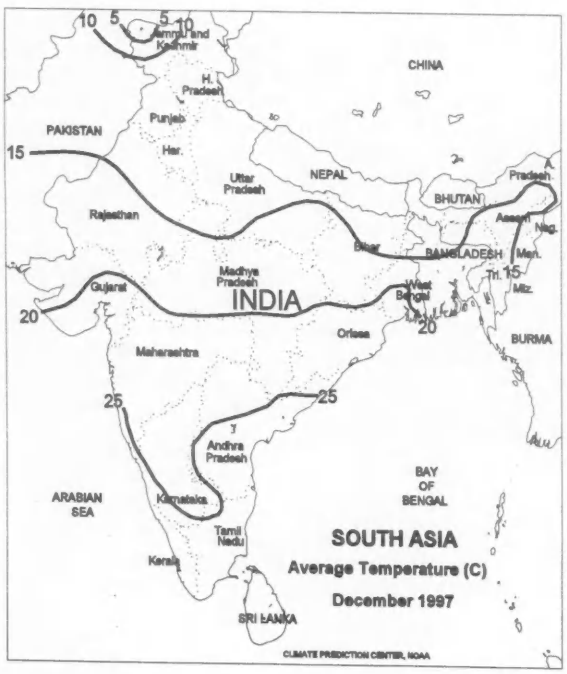
Karnataka
Tamil Nadu
Kerala
SOUTH ASIA
Percent of Normal Precipitation
December 1997
CLIMATE PREDICTION CENTER, NOAA


CHINA
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BURMA
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ARABIAN SEA
BAY OF BENGAL
Jammu and Kashmir
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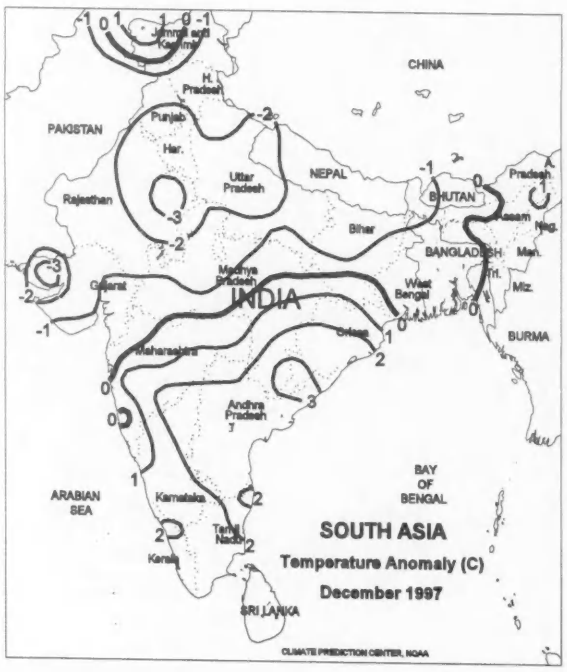
Madhya Pradesh
Maharashtra
Orissa
Andhra Pradesh
Karnataka
Tamil Nadu
Kerala
SOUTH ASIA
Average Temperature (C)
December 1997
CLIMATE PREDICTION CENTER, NOAA


CHINA
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BAY OF BENGAL
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Bihar
West Bengal
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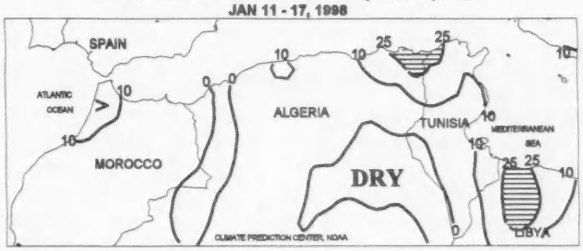
Madhya Pradesh
Maharashtra
Orissa
Andhra Pradesh
Karnataka
Tamil Nadu
Kerala
SOUTH ASIA
Temperature Anomaly (C)
December 1997
CLIMATE PREDICTION CENTER, NOAA

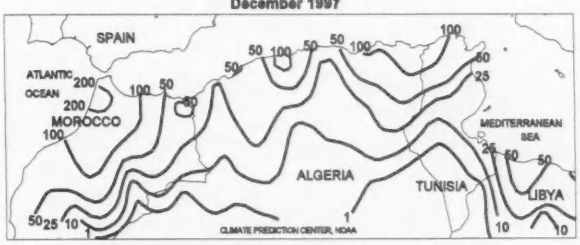
NORTHWEST AFRICA Total Precipitation (mm)
JAN 11 - 17, 1998



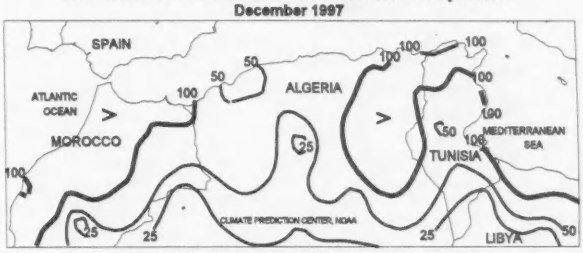
NORTHWESTERN AFRICA

Light, scattered precipitation dampened winter grains in the vegetative stage in Morocco, Algeria, and Tunisia. Greatest amounts of moisture (10-27 mm) fell in northeastern Algeria and northern Tunisia, with lesser amounts of precipitation (generally less than 10 mm) falling over remaining crop areas in Algeria and Morocco. Temperatures during the week were 2 to 4 degrees C above normal in most areas, spurring crop growth but increasing evaporation rates. In December, above-normal precipitation in Morocco, eastern Algeria, and Tunisia provided beneficial moisture for winter grain emergence and early establishment. Precipitation tapered off to below normal in winter grain areas of western and central Algeria. While December's below-normal precipitation pattern in these areas allowed the swift completion of winter grain planting, crops had to rely on soil moisture reserves to sustain early growth. Moisture reserves are becoming depleted in these areas and significant rain is needed soon to prevent a deterioration in crop conditions.

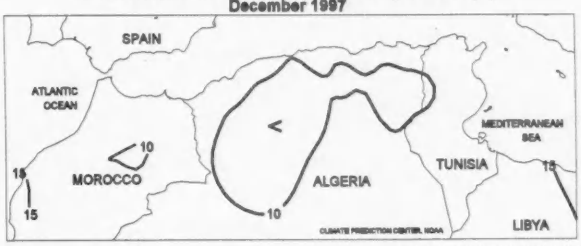
NORTHWEST AFRICA Total Precipitation (mm)
December 1997



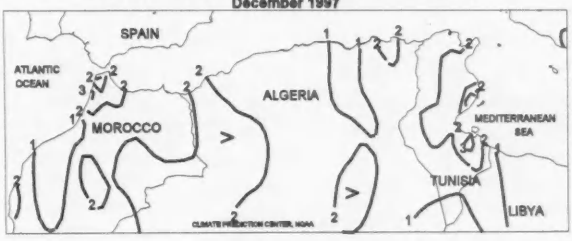
NORTHWEST AFRICA Percent of Normal Precipitation
December 1997



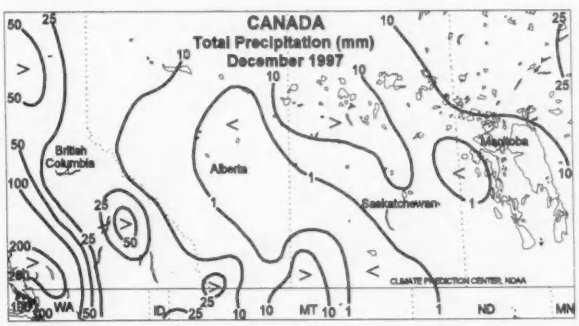
NORTHWEST AFRICA Average Temperature (C)
December 1997



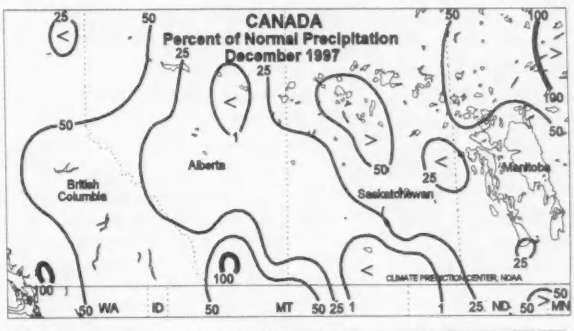
NORTHWEST AFRICA Temperature Anomaly (C)
December 1997



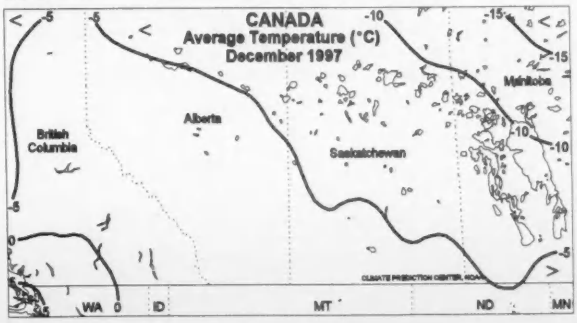
CANADA
Total Precipitation (mm)
December 1997



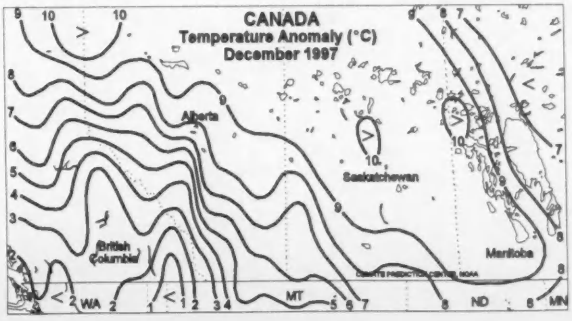
CANADA
Percent of Normal Precipitation
December 1997

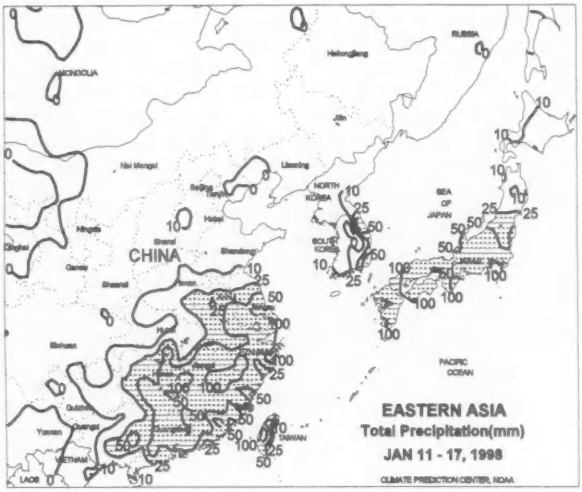


CANADA
Average Temperature (°C)
December 1997



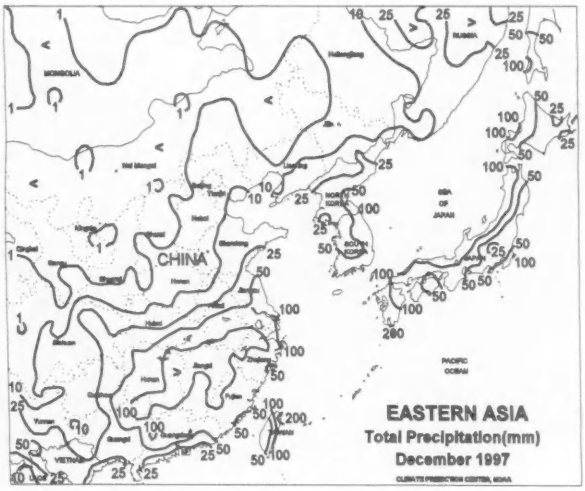
CANADA
Temperature Anomaly (°C)
December 1997

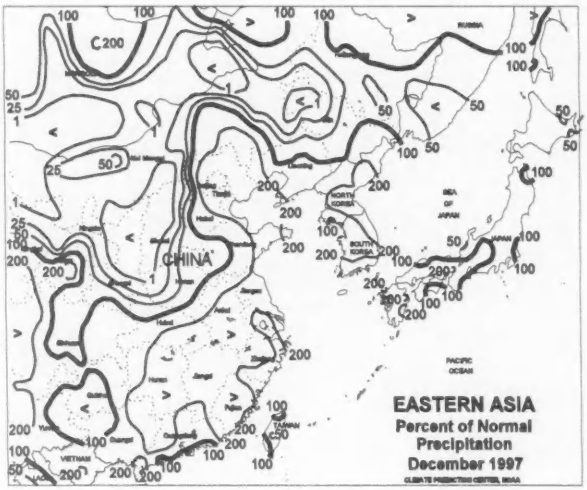


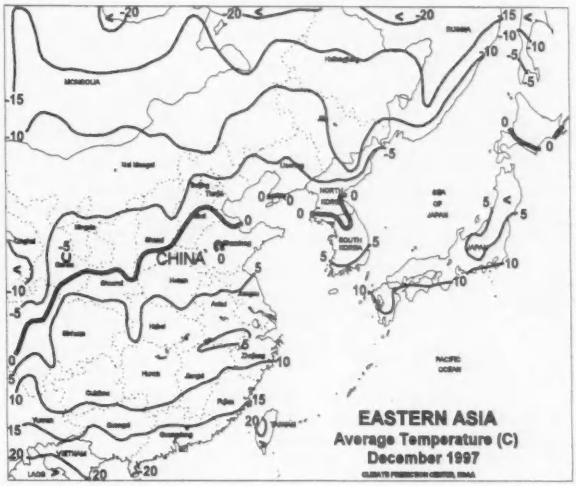


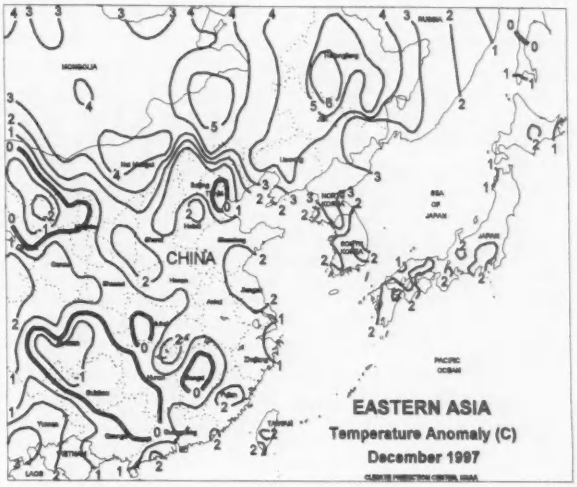
EASTERN ASIA

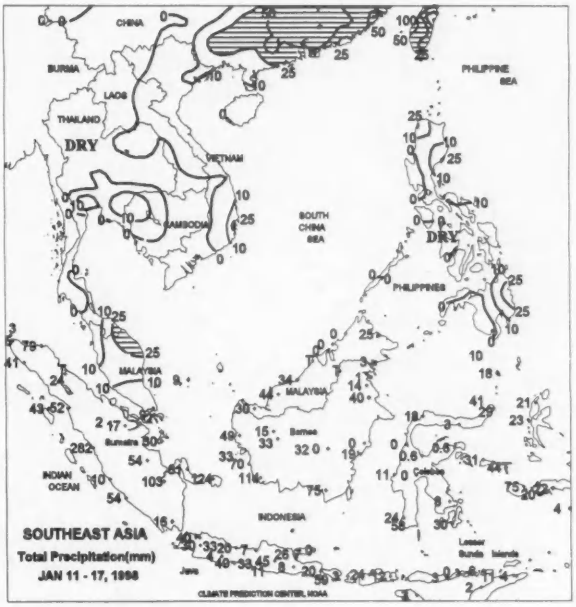
Seasonably cold weather (minimum temperatures -5 to -10 degrees C) kept wheat dormant across the North China Plain. Light precipitation (1-10 mm) in the main wheat belt of the North China Plain and moderate rain (15-40 mm) in northern Anhui and Jiangsu boosted moisture supplies. Across the Yangtze Valley and southern China, widespread rain (20-75 mm, with isolated amounts greater than 100 mm) favored vegetative winter grains and oilseeds. This is the continuation of the December rainfall pattern where rainfall averaged greater than 200 percent of normal from the southern North China Plain to southern China. Monthly temperatures averaged 1 to 2 degrees C above normal, but were still cool enough for winter wheat to enter dormancy.





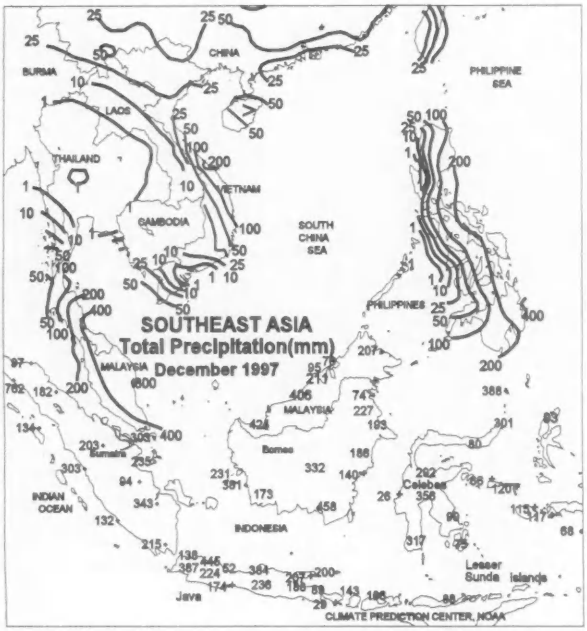


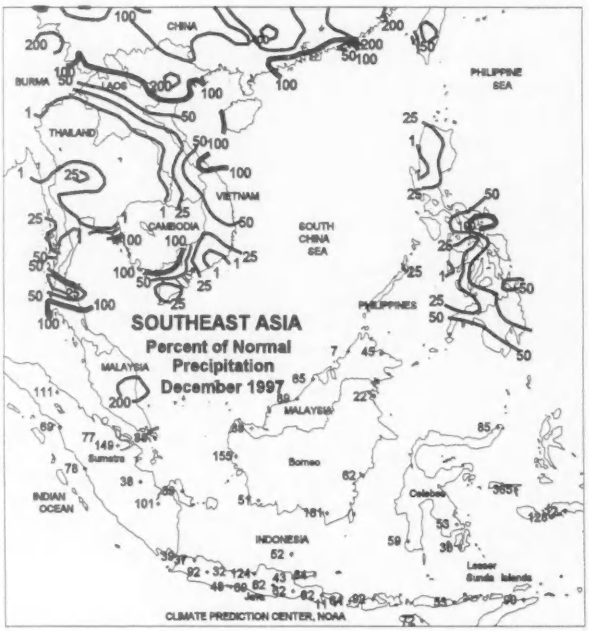




SOUTHEAST ASIA

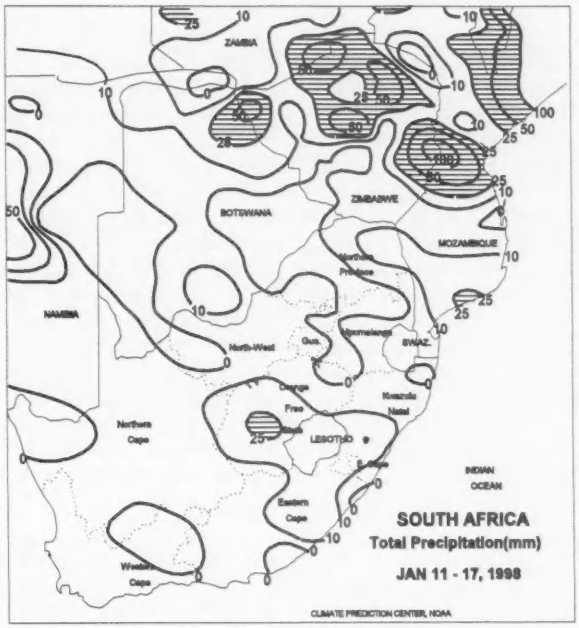
Widespread showers continued across southern Sumatra (20-100 mm) and Java (10-45 mm), aiding main-season rice. In the Philippines, drought worsened due to continued mostly dry, warm weather (rainfall less than 15 mm; temperatures averaging 2-3 degrees C above normal). Much drier weather (less than 15 mm) brought relief from excessive moisture to peninsular Malaysia. In December, near- to slightly below-normal December rainfall aided main-season rice across southern Sumatra and Java. Much-below-normal rainfall (less than 50 percent of normal) worsened drought across the northern Philippines. Above-normal December rainfall favored oil palm across the Malay Peninsula, but caused some local flooding.


SOUTHEAST ASIA
Total Precipitation(mm)
December 1997
CLIMATE PREDICTION CENTER, NOAA


SOUTHEAST ASIA
Percent of Normal
Precipitation
December 1997
CLIMATE PREDICTION CENTER, NOAA

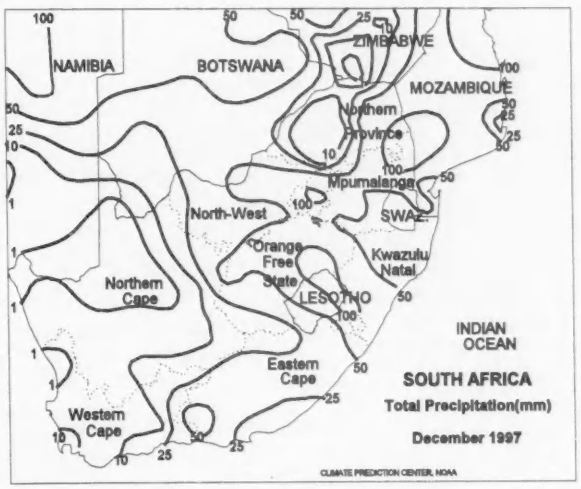
SOUTHEAST ASIA
Average Temperature (C)
December 1997

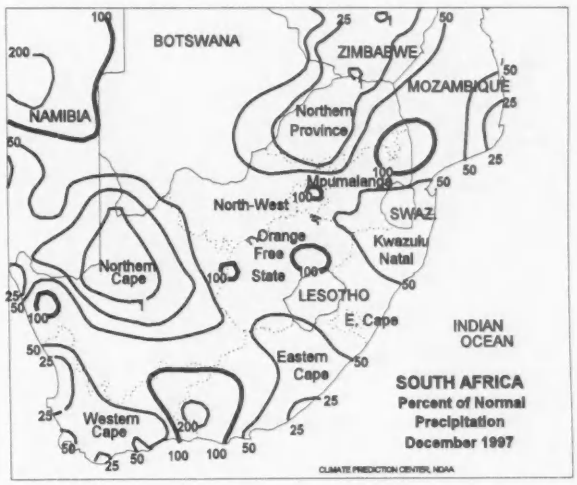
SOUTHEAST ASIA
Temperature Anomaly
December 1997
CLIMATE PREDICTION CENTER, NOAA

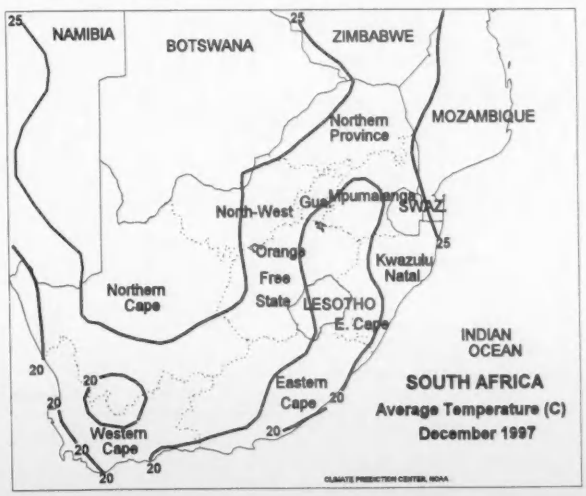


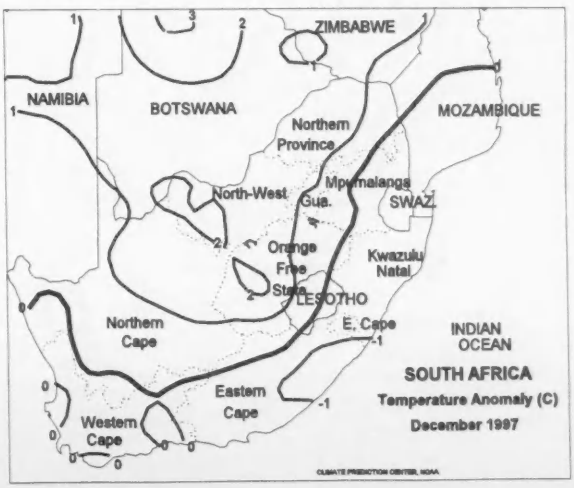
SOUTH AFRICA

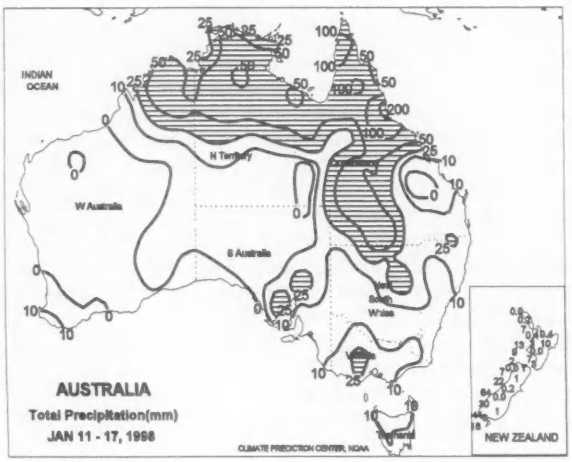
A drier, but still mild weather pattern dominated the region, with rainfall generally ranging from 4 to 18 mm across the corn belt. Light to moderate rain also covered crop areas in the coastal provinces, including the primary sugarcane region. Temperatures continued to average below normal (1-3 degrees C below normal, highs ranging from the mid 20's to lower 30's C), reducing crop moisture demands. Corn development varied from the newly emerging (primarily in the west) to the reproductive (prevalent in the east) stage. Highly beneficial rainfall of the past few weeks and the absence of oppressive heat has greatly improved crop prospects. However, long-term moisture deficits remain high in western growing areas, necessitating steady doses of rain for the remainder of the growing season. In fact, December rainfall averaged about 50 percent of normal (25-50 mm) in the heart of the corn belt, with much of that coming late in the month. Temperatures averaged near to above normal, with episodes of unseasonable heat exacerbating evaporative losses. Reports from within South Africa indicate that a significant portion of the crop (more than half) was not planted prior to the rains of late December.





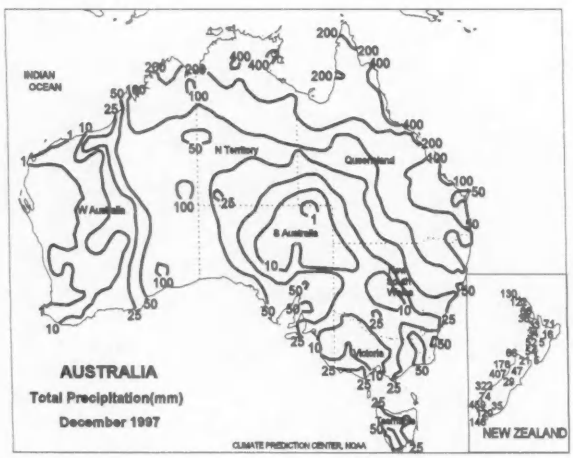


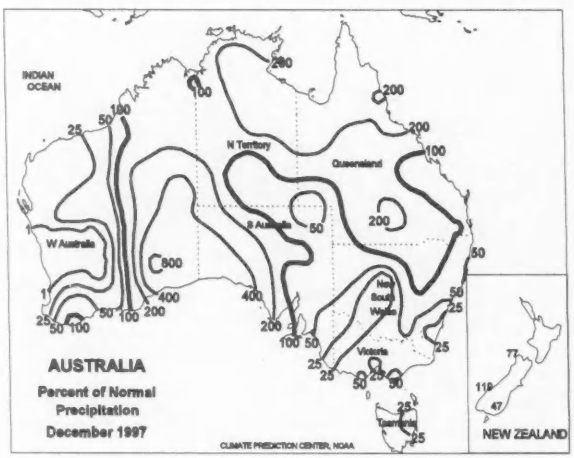


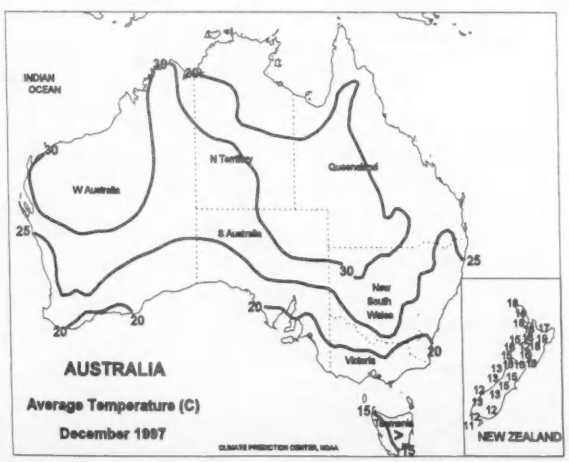


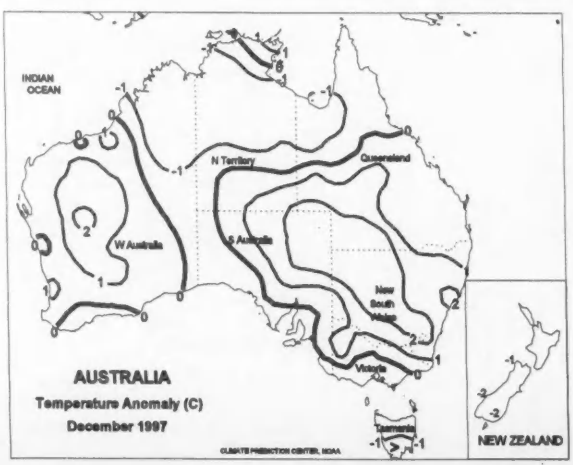
AUSTRALIA

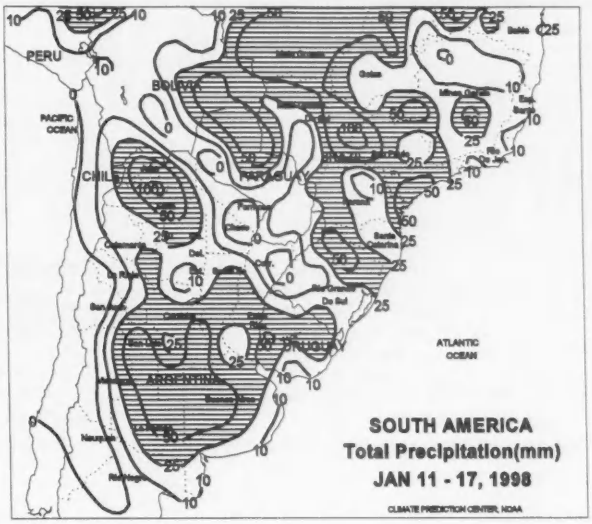
Widespread, locally heavy rain continued throughout the east. Rainfall totaled 15 to 50 mm or more in western summer crop and grazing areas of New South Wales and Queensland. Showers were lighter (5-15 mm) in eastern crop areas from Darling Downs northward. Temperatures averaged near to below normal, but highs reached the upper 30's C at many locations. Farther north, very heavy rain (100-300 mm) continued in Queensland's northern sugarcane area. This week's rainfall was due partly to a tropical cyclone that grazed the coast late in the week, partially fueling an already active monsoon. During December, rainfall was near to above normal across the main summer crop areas, due mainly to the high frequency of rainfall early in the month. By late December, a more tropical pattern dominated the region, with monsoonal rain covering much of the north, including northern sections of Queensland's sugarcane areas. In contrast, near- to below-normal December rainfall benefited late winter grain harvests in the west and southeast, although showers disrupted fieldwork early in the month in South Australia.





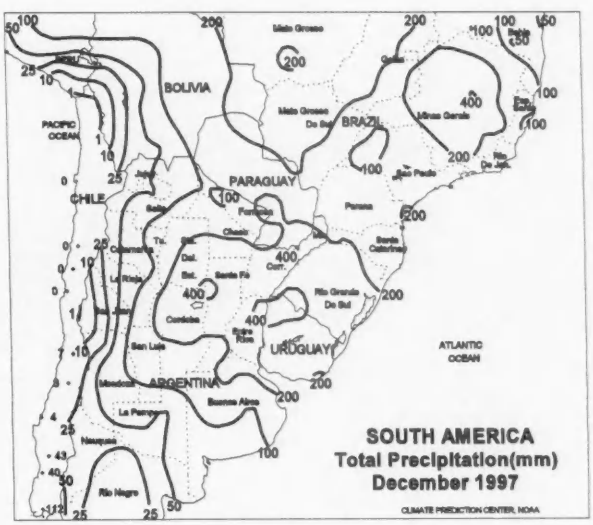


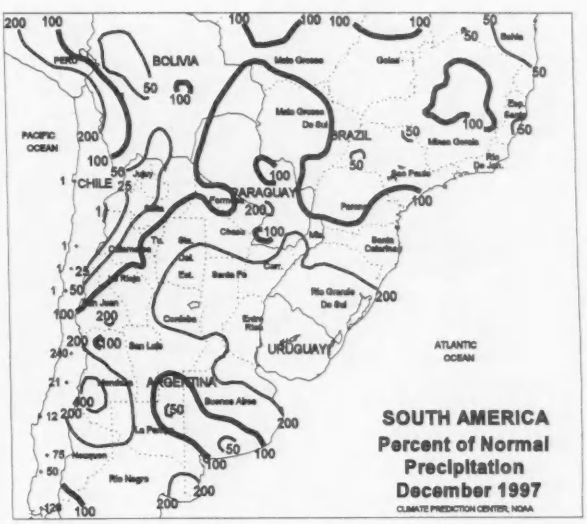


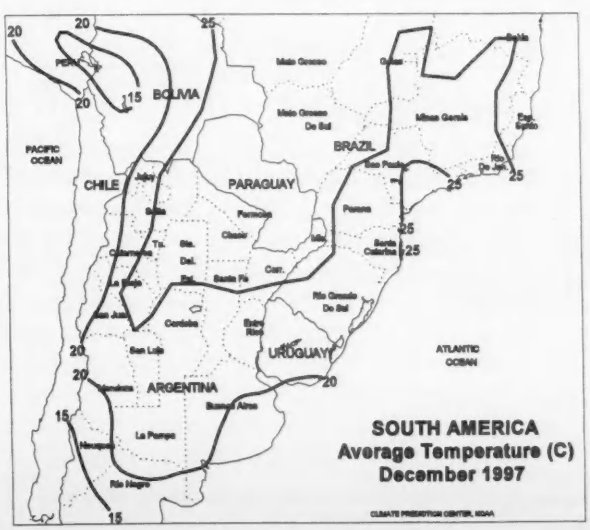


SOUTH AMERICA

Widespread showers (15-50 mm, with isolated amounts greater than 75 mm) covered most major soybean areas of southern Brazil, maintaining adequate soil moisture for vegetative soybeans. In Mato Grosso do Sul, however, light rainfall (7-22 mm) limited soil moisture for developing soybeans. In central Argentina, excellent weather continued for reproductive corn and vegetative soybeans. Rain (35-80 mm) kept soil moisture levels high, and cool weather (temperatures 1-3 degrees C below normal) reduced crop water use. Light to moderate rain (15-30 mm) slowed winter wheat harvesting in southern Buenos Aires. In December, near- to above-normal rainfall and cool weather (monthly temperatures 1-2 degrees C below normal) provided ideal weather for corn and soybeans in central Argentina. In southern Brazil, above-normal rainfall in Rio Grande do Sul and near-normal rainfall elsewhere aided soybeans.







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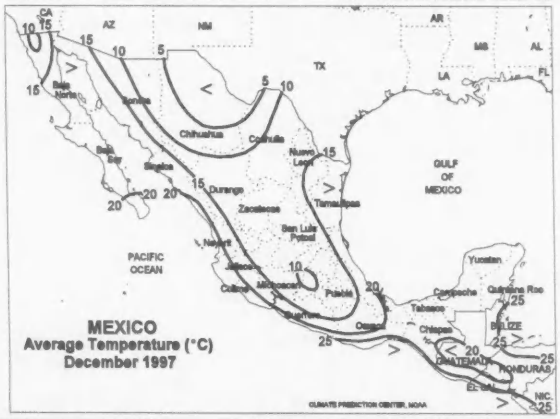

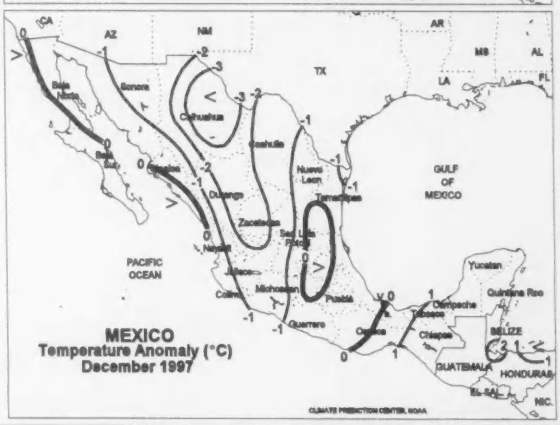

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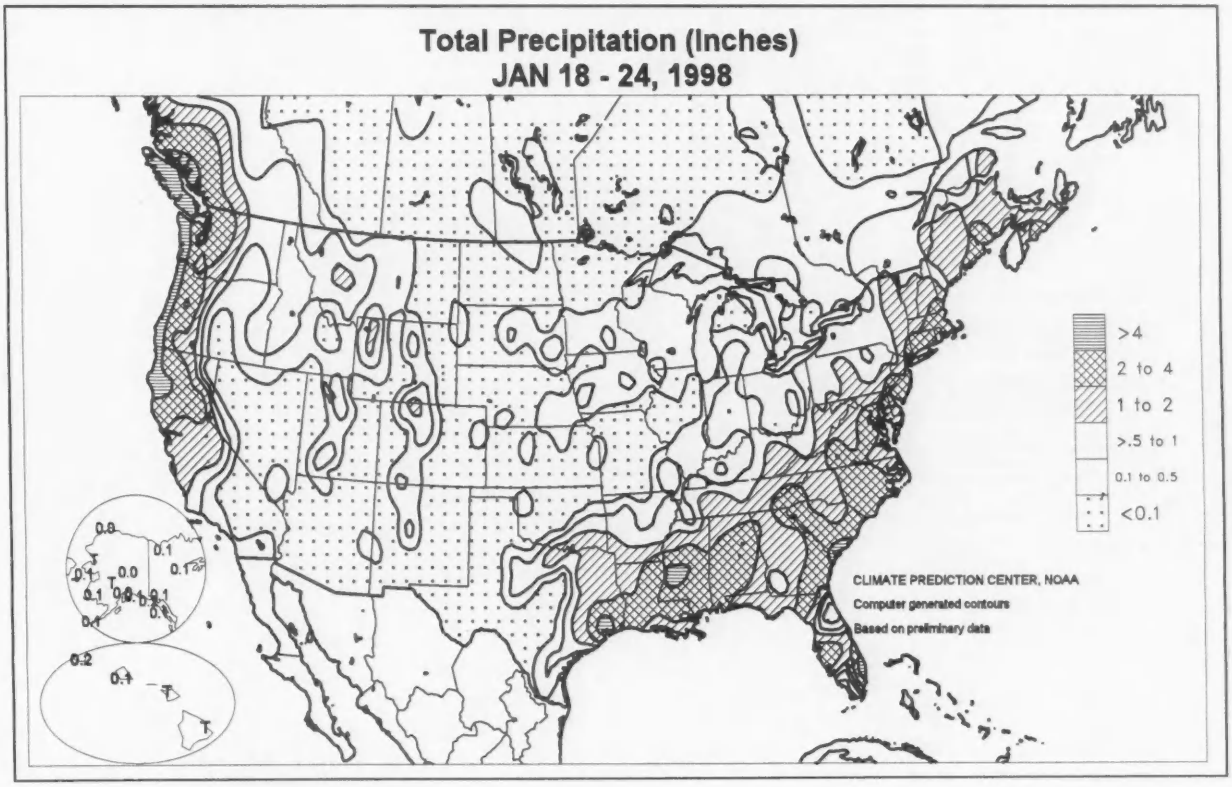

HIGHLIGHTS

January 18 - 24, 1998

Similar to last week's pattern, several storms delivered significant precipitation to the **Northwest**, then crossed the **Southeastern and Atlantic Coast States**, padding already impressive monthly rain- and snowfall totals. Meanwhile, the gradual disappearance of Arctic air ensured above-normal temperatures nearly nationwide. In the **upper Midwest**, however, departures of +2 to +13°F were accompanied by several days of light snow. In the **Northeast**, where temperatures averaged 4 to 7°F above normal, snow and ice hampered clean-up efforts from the early-month ice storm. Temperature departures in the **Northwest** generally ranged from +4 to +12°F.

(Continued on back cover)

Contents

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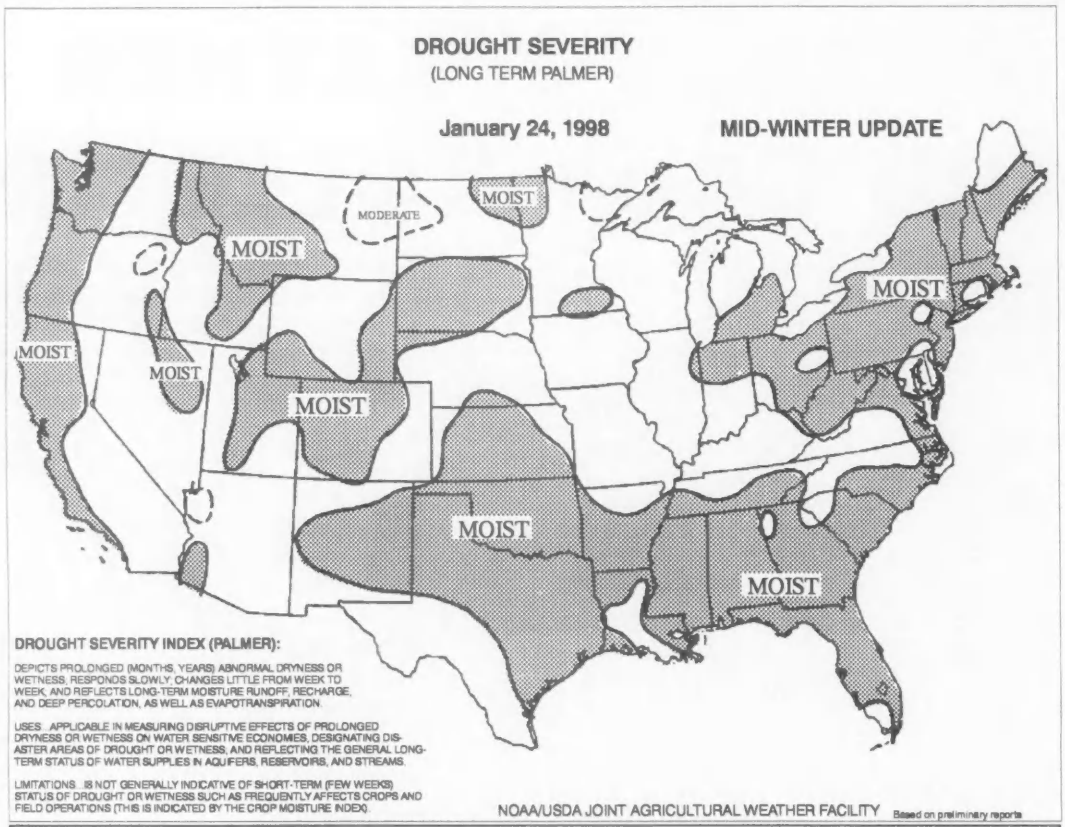
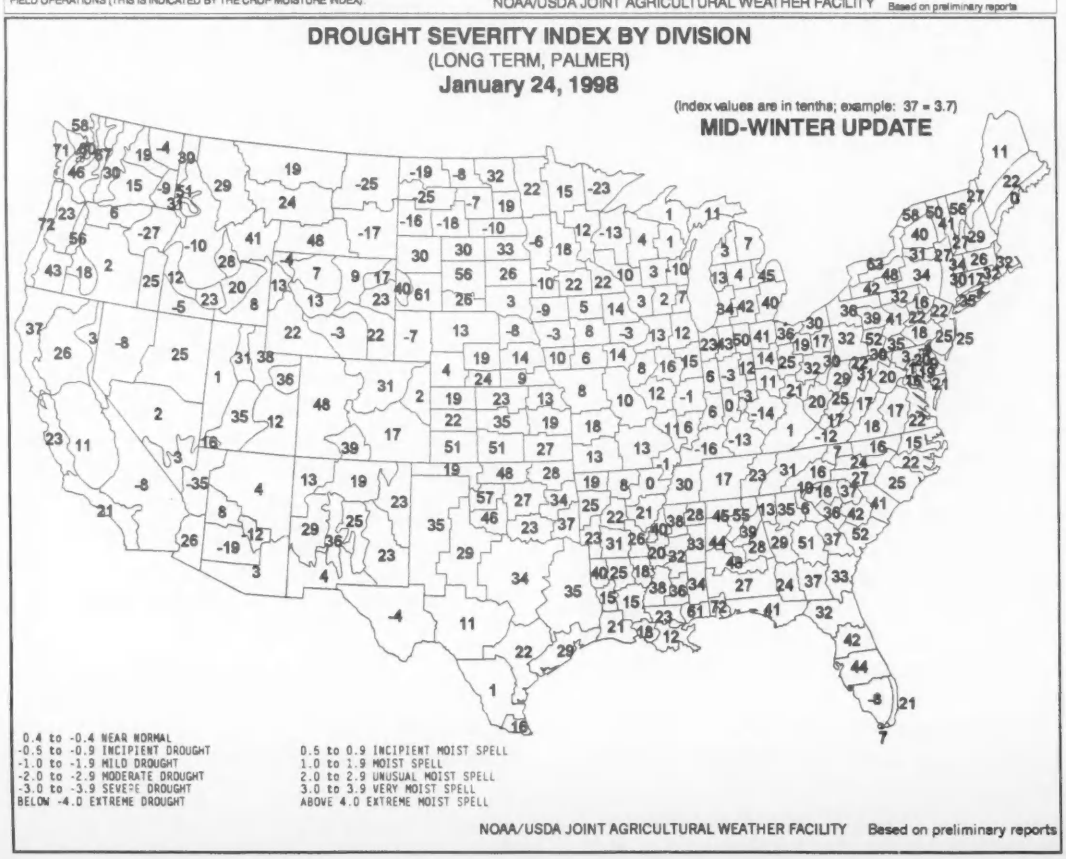
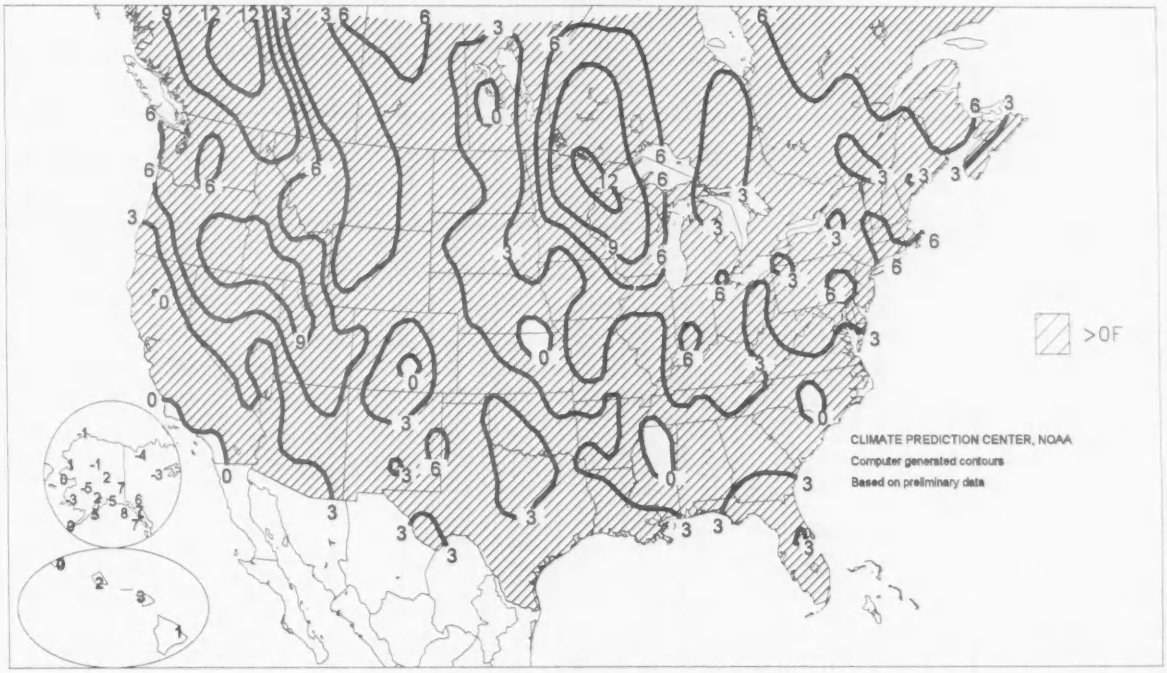
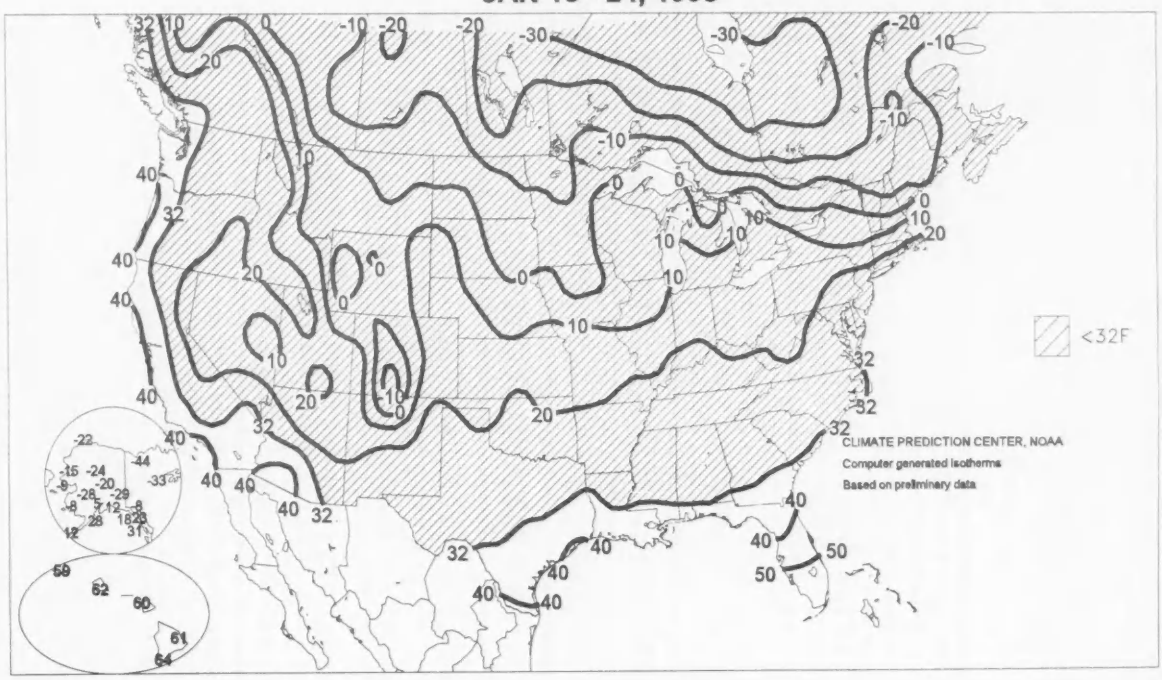

DROUGHT SEVERITY
(LONG TERM PALMER)
January 24, 1998
MID-WINTER UPDATE
MOIST
MODERATE
MOIST
MOIST
MOIST
MOIST
MOIST
MOIST
MOIST
DROUGHT SEVERITY INDEX (PALMER):
DEPICTS PROLONGED (MONTHS, YEARS) ABNORMAL DRYNESS OR WETNESS, RESPONDS SLOWLY, CHANGES LITTLE FROM WEEK TO WEEK, AND REFLECTS LONG-TERM MOISTURE RUNOFF, RECHARGE, AND DEEP PERCOLATION, AS WELL AS EVAPOTRANSPIRATION.
USES...APPLICABLE IN MEASURING DISRUPTIVE EFFECTS OF PROLONGED DRYNESS OR WETNESS ON WATER SENSITIVE ECONOMIES, DESIGNATING DISASTER AREAS OF DROUGHT OR WETNESS, AND REFLECTING THE GENERAL LONG-TERM STATUS OF WATER SUPPLIES IN AQUIFERS, RESERVOIRS, AND STREAMS.
LIMITATIONS...IS NOT GENERALLY INDICATIVE OF SHORT-TERM (FEW WEEKS) STATUS OF DROUGHT OR WETNESS SUCH AS FREQUENTLY AFFECTS CROPS AND FIELD OPERATIONS (THIS IS INDICATED BY THE CROP MOISTURE INDEX).
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
Based on preliminary reports


DROUGHT SEVERITY INDEX BY DIVISION
(LONG TERM, PALMER)
January 24, 1998
(Index values are in tenths; example: 37 = 3.7)
MID-WINTER UPDATE
0.4 to -0.4 NEAR NORMAL
-0.5 to -0.9 INCIPIENT DROUGHT
-1.0 to -1.9 MILD DROUGHT
-2.0 to -2.9 MODERATE DROUGHT
-3.0 to -3.9 SEVERE DROUGHT
BELOW -4.0 EXTREME DROUGHT
0.5 to 0.9 INCIPIENT MOIST SPELL
1.0 to 1.9 MOIST SPELL
2.0 to 2.9 UNUSUAL MOIST SPELL
3.0 to 3.9 VERY MOIST SPELL
ABOVE 4.0 EXTREME MOIST SPELL
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
Based on preliminary reports

Departure of Average Temperature from Normal (°F)
JAN 18 - 24, 1998



Extreme Minimum Temperature (°F)
JAN 18 - 24, 1998



National Weather Data for Selected Cities

Weather Data for the Week Ending January 24, 1998

Data Provided by Climate Prediction Center (301-763-8000 EXT. 7511) and the Southern Regional Climate Center

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																	TEMP, °F		PRECIP.	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL, IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
AL	BIRMINGHAM	53	33	61	24	43	2	1.98	0.84	1.05	12.08	133	7.98	201	95	64	0	4	4	2
	HUNTSVILLE	46	34	50	25	40	1	1.20	0.07	0.57	10.78	108	7.49	184	94	71	0	3	4	1
	MOBILE	61	41	66	33	51	2	2.29	1.23	2.22	19.85	221	15.47	422	96	65	0	0	4	1
	MONTGOMERY	57	38	62	31	47	1	1.13	0.08	1.13	7.37	84	2.86	79	92	59	0	2	1	1
AK	ANCHORAGE	22	11	30	4	17	2	0.00	-0.17	0.00	1.98	115	0.33	53	85	71	0	7	0	0
	BARROW	-12	-18	-9	-21	-15	-1	0.00	-0.03	0.00	0.08	36	0.00	0	77	74	0	7	0	0
	FAIRBANKS	-1	-16	2	-20	-9	2	0.00	-0.09	0.00	2.05	169	0.00	0	81	71	0	7	0	0
	JUNEAU	37	26	43	22	31	7	--	--	--	--	--	--	--	98	70	0	7	-	-
	KODIAK	39	32	41	23	35	5	--	--	--	--	--	--	--	93	77	0	3	-	-
	NOME	16	-2	25	-9	7	0	0.13	-0.04	0.11	1.87	126	0.92	146	82	59	0	7	2	0
AZ	FLAGSTAFF	46	21	52	11	33	4	0.00	-0.44	0.00	3.12	78	1.27	80	84	36	0	6	0	0
	PHOENIX	67	47	72	43	57	3	0.00	-0.14	0.00	1.18	78	0.35	66	68	30	0	0	0	0
	PRESCOTT	53	29	63	21	41	5	0.00	-0.33	0.00	3.22	116	0.76	63	76	33	0	6	0	0
	TUCSON	68	40	75	35	54	2	0.00	-0.19	0.00	3.04	172	0.16	23	70	24	0	0	0	0
	YUMA	70	47	75	43	59	2	0.00	-0.08	0.00	2.83	382	0.04	14	61	25	0	0	0	0
AR	FORT SMITH	52	32	61	27	42	5	1.34	0.93	1.33	8.57	190	4.06	272	90	54	0	4	2	1
	LITTLE ROCK	51	35	59	28	43	4	0.50	-0.23	0.36	8.12	113	4.37	175	92	60	0	4	2	0
CA	BAKERSFIELD	58	39	75	34	48	0	0.03	-0.17	0.02	2.14	170	1.04	163	97	65	0	0	2	0
	EUREKA	56	46	63	40	51	3	3.04	1.69	--	15.57	--	10.84	--	97	89	0	0	6	0
	FRESNO	55	39	68	35	47	1	0.22	-0.24	0.19	3.48	119	2.53	168	99	68	0	0	3	0
	LOS ANGELES	63	49	65	46	56	-1	0.16	-0.41	0.16	6.56	189	2.83	155	84	60	0	0	1	0
	REDDING	50	41	57	31	45	-1	1.52	0.16	0.84	12.59	123	9.33	198	97	79	0	1	6	1
	SACRAM/MCCLELL	56	43	63	37	49	--	0.84	--	0.75	7.74	--	5.29	--	100	75	0	0	3	1
	SAN DIEGO	64	52	67	49	58	0	0.21	-0.20	0.21	3.85	121	2.30	162	87	57	0	0	1	0
	SAN FRANCISCO	57	46	62	43	51	2	1.66	0.66	1.46	12.07	186	6.78	199	92	67	0	0	5	1
CO	ALAMOSA	32	-2	42	-9	15	0	0.00	-0.06	0.00	0.19	29	0.00	0	89	45	0	7	0	0
	CO SPRINGS	43	17	56	9	30	1	0.00	-0.06	0.00	0.10	14	0.00	0	75	28	0	7	0	0
	DENVER	43	20	50	12	31	1	0.00	-0.11	0.00	0.59	57	0.00	0	80	30	0	7	0	0
	GRAND JUNCTION	43	23	52	17	33	8	0.02	-0.10	0.02	0.56	53	0.41	91	85	41	0	7	1	0
	PUEBLO	45	12	52	9	29	-1	0.00	-0.06	0.00	0.66	96	0.28	108	78	33	0	7	0	0
CT	BRIDGEPORT	38	30	46	27	34	6	2.88	2.16	2.48	7.10	118	3.75	148	83	61	0	6	3	1
	HARTFORD	33	25	37	19	29	5	0.10	-0.65	0.08	4.27	65	2.08	78	88	67	0	7	2	0
DC	WASHINGTON	44	33	51	29	38	4	2.10	1.49	1.79	5.11	97	3.37	158	90	58	0	3	4	1
DE	WILMINGTON	41	30	49	24	36	6	2.71	2.05	2.53	6.69	114	4.12	173	90	59	0	4	3	1
FL	DAYTONA BEACH	69	51	75	42	60	3	0.20	-0.43	0.15	12.10	259	4.34	208	96	66	0	0	3	0
	JACKSONVILLE	66	44	74	35	55	3	1.15	0.38	0.86	12.38	237	2.64	106	98	61	0	0	4	1
	KEY WEST	77	66	80	55	71	2	0.10	-0.36	0.07	6.43	178	2.01	126	93	74	0	0	3	0
	MIAMI	77	65	80	56	71	4	0.30	-0.17	0.21	6.24	184	0.98	63	89	67	0	0	3	0
	ORLANDO	71	53	77	45	62	3	0.41	-0.13	0.40	14.57	375	1.93	112	96	65	0	0	2	0
	TAMPA	71	56	80	48	64	4	1.92	1.46	1.85	19.74	544	4.17	284	95	73	0	0	3	1
	VALPARAISO/EGLIN	62	44	66	34	53	0	0.96	0.02	0.91	11.23	150	5.73	175	93	59	0	0	2	1
	WEST PALM BEACH	76	61	79	50	69	4	9.12	8.48	6.20	15.50	335	10.47	487	89	63	0	0	4	2
GA	ATHENS	50	35	55	29	43	1	1.47	0.42	0.75	10.66	139	4.75	133	95	57	0	3	4	1
	ATLANTA	50	34	55	27	42	1	1.38	0.31	0.75	9.78	122	4.73	129	95	59	0	4	4	2
	AUGUSTA	56	36	62	28	46	2	2.85	1.91	1.74	12.98	199	6.04	194	95	57	0	4	5	2
	COLUMBUS	57	39	60	31	48	2	0.86	-0.16	0.42	9.03	106	2.31	85	96	54	0	2	3	0
	MACON	55	37	58	28	46	1	1.58	0.55	0.98	11.61	149	4.32	123	97	59	0	3	4	1
	SAVANNAH	61	41	69	32	51	2	3.88	3.05	2.59	9.82	170	5.83	208	96	61	0	1	3	2
HI	HILO	81	64	86	61	73	1	0.04	-2.13	0.02	9.01	46	0.15	2	82	56	0	0	2	0
	HONOLULU	82	67	84	62	74	2	0.02	-0.75	0.02	1.21	18	0.77	27	90	60	0	0	1	0
	KAHULUI	84	64	86	60	74	3	0.03	-0.91	0.03	1.86	28	0.36	11	89	50	0	0	1	0
	LIHUE	77	65	80	59	71	0	0.22	-1.09	0.15	5.93	60	3.34	71	91	64	0	0	4	0
ID	BOISE	49	34	57	28	42	12	0.47	0.14	0.41	3.11	125	2.46	218	88	50	0	1	3	0
	LEWISTON	47	34	52	28	40	6	0.55	0.27	0.49	1.84	82	1.24	122	93	68	0	2	4	0
	POCATELLO	38	26	47	24	32	9	0.12	-0.10	0.09	2.83	147	2.17	265	88	68	0	7	3	0
IL	CHICAGO/O'HARE	30	22	33	8	26	6	0.10	-0.21	0.07	4.03	109	2.54	205	92	76	0	7	3	0
	MOLINE	29	17	33	1	23	3	0.32	0.00	0.13	3.77	108	2.01	160	96	80	0	7	4	0
	PEORIA	30	20	37	10	25	4	0.05	-0.26	0.02	4.49	122	2.55	209	95	77	0	7	3	0
	ROCKFORD	28	20	32	4	24	6	0.08	-0.18	0.05	2.40	78	1.57	151	94	79	0	7	2	0
	SPRINGFIELD	31	22	39	13	26	2	0.15	-0.15	0.13	4.17	105	2.41	198	93	80	0	7	2	0
IN	EVANSVILLE	38	30	48	25	34	4	0.42	-0.16	0.40	4.61	80	2.26	108	91	76	0	5	3	0
	FORT WAYNE	31	21	33	9	26	4	0.28	-0.11	0.14	5.67	129	3.95	263	93	79	0	7	3	0
	INDIANAPOLIS	35	28	44	18	32	6	0.32	-0.17	0.32	3.72	72	2.38	129	92	75	0	6	1	0
	SOUTH BEND	30	23	32	15	27	4	0.70	0.24	0.50	6.30	124	4.21	234	93	76	0	7	3	1
IA	BURLINGTON	28	22	37	8	25	--	0.20	-0.08	--	3.78	126	2.26	219	86	71	0	5	-	-
	CEDAR RAPIDS	27	16	32	1	21	4	0.54	0.33	--	2.30	96	1.14	143	96	82	0	7	-	-
	DES MOINES	27	18	30	5	23	3	0.18	-0.02	0.13	1.95	94	0.59	78	93	79	0	7	4	0
	DUBUQUE	27	19	31	2	23	7	0.10	-0.16	0.07	1.90	64	0.82	81	93	80	0	7	3	0
	SIOUX CITY	25	15	28	6	20	3	0.09	-0.02	0.09	0.48	40	0.27	63	91	78	0	7	1	0
	WATERLOO	26	12	30	-1	19	5	0.09	-0.08	0.05	1.09	56	0.43	68	93	79	0	7	2	0
KS	CONCORDIA	31	20	38	15	26	0	0.16	0.05	0.10	2.10	162	0.35	76	91	71	0	7	2	0
	DODGE CITY	43	24	52	19	34	4	0.06	-0.05	0.06	2.71	261	0.12	32	89	58	0	7	1	0
	GOODLAND	42	20	51	17	31	3	0.06	-0.02	0.06	0.61	67	0.07	23	89	51	0	7	1	0
	TOPEKA	35	19	43	14	27	1	0.02	-0.17	0.02	3.02	139	0.61	80	87	66	0	7	1	0

Based on 1961-90 normals

Weather Data for the Week Ending January 24, 1998

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																	TEMP, °F		PRECIP.	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEK, Y TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL, IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	01 INCH OR MORE	50 INCH OR MORE
	WICHITA	42	23	54	20	33	3	0.00	-0.17	0.00	3.18	174	0.53	84	88	61	0	7	0	0
KY	JACKSON	42	31	47	23	36	4	0.84	0.01	0.51	5.83	80	3.62	123	93	69	0	5	4	1
	LEXINGTON	41	29	49	21	35	5	0.49	-0.12	0.28	6.58	105	3.91	174	92	69	0	6	4	0
	LOUISVILLE	42	32	50	23	37	6	0.26	-0.37	0.23	5.15	87	2.63	117	93	71	0	3	2	0
	PADUCAH	40	28	47	21	34	2	0.53	-0.17	0.43	5.17	72	2.72	106	95	71	0	5	2	0
LA	BATON ROUGE	63	41	72	32	52	2	3.12	2.02	3.10	21.07	226	14.76	387	95	60	0	1	2	1
	LAKE CHARLES	64	45	70	37	55	4	1.83	0.84	1.79	15.47	179	9.75	272	95	65	0	0	2	1
	NEW ORLEANS	64	47	72	39	55	4	2.02	0.89	1.91	20.60	213	18.04	464	91	69	0	0	2	1
	SHREVEPORT	58	41	70	34	50	5	1.35	0.47	1.22	11.70	164	5.59	185	91	59	0	0	2	1
ME	CARIBOU	23	8	32	-20	15	7	1.02	0.50	0.97	6.07	118	3.28	169	86	70	0	7	4	1
	PORTLAND	31	21	35	6	26	5	0.02	-0.75	0.01	6.45	88	3.88	139	89	66	0	7	2	0
MD	BALTIMORE	43	30	49	23	36	5	2.13	1.44	1.82	5.69	98	3.63	152	92	65	0	4	4	1
MA	BOSTON	36	27	42	20	32	3	2.29	1.49	1.53	7.00	103	4.69	167	91	71	0	6	3	2
	WORCESTER	29	23	35	16	26	4	2.18	1.36	1.44	6.80	98	4.48	156	88	75	0	7	3	2
MI	ALPENA	27	14	31	2	20	3	0.66	0.31	0.38	4.06	122	3.33	254	94	77	0	7	7	0
	GRAND RAPIDS	30	23	32	20	26	5	0.35	-0.02	0.22	3.94	91	2.97	199	91	76	0	7	4	0
	HOUGHTON LAKE	27	11	29	-4	19	3	0.23	-0.09	0.14	2.35	75	2.01	168	92	74	0	7	5	0
	LANSING	30	18	33	10	24	4	0.33	0.02	0.23	3.98	113	3.09	257	91	74	0	7	3	0
	MARQUETTE	22	12	27	3	17	6	0.47	-0.02	0.29	4.89	112	2.49	142	95	76	0	7	4	0
	MUSKEGON	30	24	33	21	27	4	0.24	-0.25	0.19	3.45	70	2.22	117	89	73	0	7	4	0
MN	DULUTH	23	15	27	6	19	12	0.05	-0.22	0.04	0.74	33	0.34	35	95	75	0	7	2	0
	INT'L FALLS	21	5	26	-9	13	12	0.06	-0.13	0.02	0.75	48	0.52	74	91	75	0	7	3	0
	MINNEAPOLIS	26	14	29	-1	20	8	0.03	-0.18	0.02	0.69	38	0.37	49	90	72	0	7	2	0
	ROCHESTER	23	14	28	2	18	7	0.10	-0.07	0.05	0.99	60	0.61	98	92	82	0	7	4	0
	ST. CLOUD	23	10	27	-7	16	9	0.13	-0.04	0.09	0.77	55	0.55	95	90	74	0	7	3	0
MS	JACKSON	54	36	64	28	45	1	4.35	3.20	2.59	14.69	146	8.91	216	98	70	0	3	3	2
	MERIDIAN	55	34	62	27	45	0	3.28	2.15	2.20	16.59	164	11.88	295	96	62	0	5	4	2
	TUPELO	47	32	52	24	40	0	1.09	0.03	0.54	9.89	99	6.17	159	92	65	0	4	3	2
MO	COLUMBIA	35	24	41	16	29	2	0.00	-0.30	0.00	3.21	89	1.44	125	87	71	0	7	0	0
	KANSAS CITY	36	22	44	15	29	3	0.00	-0.22	0.00	2.76	113	0.43	49	84	62	0	7	0	0
	SAINT LOUIS	34	25	44	18	29	0	0.12	-0.25	0.08	4.71	105	2.86	198	93	73	0	6	2	0
	SPRINGFIELD	41	25	51	17	33	2	0.05	-0.31	0.05	5.56	121	2.41	169	91	62	0	7	1	0
MT	BILLINGS	34	20	45	13	27	4	0.77	0.58	0.77	2.13	141	1.58	214	89	73	0	7	1	1
	BUTTE	34	12	40	-4	23	6	0.23	0.10	0.21	0.87	94	0.73	159	90	58	0	7	2	0
	GLASGOW	22	6	42	-3	14	4	0.05	-0.03	0.03	0.26	38	0.25	83	92	80	0	7	2	0
	GREAT FALLS	36	21	48	17	29	7	0.50	0.30	0.37	1.08	68	0.76	104	84	62	0	6	2	0
	KALISPELL	37	24	43	14	30	10	0.36	0.03	0.15	1.45	49	0.88	72	97	80	0	7	4	0
	MILES CITY	32	14	45	9	23	6	0.12	0.01	0.10	0.29	28	0.28	64	93	73	0	7	2	0
	MISSOULA	34	22	40	14	28	5	0.38	0.10	0.22	1.73	80	1.39	139	94	80	0	7	5	0
NE	GRAND ISLAND	29	18	33	2	22	0	0.14	0.03	0.11	0.59	54	0.18	47	91	76	0	7	2	0
	LINCOLN	29	16	32	12	22	1	0.19	0.08	0.19	1.22	94	0.49	117	92	76	0	7	1	0
	NORFOLK	26	17	30	9	21	2	0.06	-0.05	0.06	0.57	50	0.20	50	90	74	0	7	2	0
	NORTH PLATTE	32	14	37	9	23	1	0.19	0.11	0.16	0.49	65	0.29	104	92	75	0	7	2	0
	OMAHA	27	18	32	5	23	1	0.26	0.12	0.25	1.37	85	0.88	147	90	76	0	7	2	0
	SCOTTSBLUFF	43	18	55	11	30	5	0.00	-0.11	0.00	0.52	55	0.20	53	89	42	0	7	0	0
	VALENTINE	33	11	48	5	22	3	0.01	-0.05	0.01	0.14	25	0.11	58	92	74	0	7	1	0
NV	ELY	40	12	48	1	26	1	0.24	0.07	0.23	0.68	52	0.45	79	86	49	0	7	2	0
	LAS VEGAS	59	40	63	35	49	3	0.00	-0.11	0.00	0.26	35	0.19	50	59	27	0	0	0	0
	RENO	50	25	61	20	37	4	0.61	0.36	0.61	1.67	91	1.09	128	94	39	0	7	1	1
	WINNEMUCCA	47	28	59	20	38	8	0.17	0.00	0.09	1.85	125	1.59	269	91	53	0	6	3	0
NH	CONCORD	31	18	36	1	24	6	1.52	0.97	0.84	5.73	112	3.78	193	85	63	0	7	5	1
NJ	NEWARK	40	31	47	29	36	6	2.62	1.86	2.30	9.12	150	4.96	187	82	60	0	5	3	1
NM	ALBUQUERQUE	50	28	56	23	39	4	0.00	-0.11	0.00	1.16	133	0.16	42	71	27	0	6	0	0
NY	ALBANY	30	20	34	11	25	5	0.72	0.20	0.66	4.35	91	2.87	154	92	64	0	7	5	1
	BINGHAMTON	28	21	32	13	25	4	0.40	-0.12	0.30	5.74	117	2.92	154	98	93	0	7	4	0
	BUFFALO	31	22	39	15	26	3	0.65	0.08	0.46	8.01	137	5.05	235	94	76	0	7	5	0
	ROCHESTER	32	23	36	16	27	4	0.88	0.44	0.83	8.17	187	5.30	325	93	73	0	7	4	1
	SYRACUSE	30	21	35	5	25	3	1.21	0.71	1.02	8.97	177	4.87	262	94	71	0	7	5	1
NC	ASHEVILLE	45	31	52	26	38	2	1.42	0.69	0.99	11.18	186	8.19	330	92	63	0	5	5	1
	CHARLOTTE	49	34	54	29	41	2	1.58	0.73	0.74	8.64	136	4.56	159	90	58	0	3	5	2
	GREENSBORO	43	31	47	25	37	1	1.33	0.61	0.51	7.40	127	5.23	213	90	63	0	5	5	1
	HATTERAS	50	38	63	33	44	0	3.45	2.25	2.08	12.77	148	7.12	172	92	67	0	0	3	2
	RALEIGH	47	32	57	23	39	1	2.05	1.25	1.10	8.41	142	5.65	211	93	61	0	3	4	2
	WILMINGTON	54	38	63	26	46	1	3.59	2.71	3.03	10.94	165	6.11	202	95	64	0	2	3	2
ND	BISMARCK	21	5	27	-2	13	4	0.04	-0.07	0.03	0.17	20	0.09	24	90	77	0	7	2	0
	DICKINSON	25	12	38	5	19	5	0.06	-0.02	0.04	0.13	20	0.09	32	91	82	0	7	2	0
	FARGO	16	3	25	-11	9	4	0.00	-0.14	0.00	0.74	63	0.30	56	86	78	0	7	0	0
	GRAND FORKS	14	-1	24	-15	7	2	0.00	-0.17	0.00	0.74	61	0.18	32	89	79	0	7	0	0
	JAMESTOWN	19	1	22	-2	10	2	0.16	0.04	0.07	0.59	61	0.32	68	95	80	0	7	4	0
	WILLISTON	21	8	36	-8	15	6	0.14	0.03	0.08	0.28	28	0.26	60	88	77	0	7	4	0
OH	AKRON-CANTON	32	21	42	13	26	2	0.62	0.15	0.22	5.83	125	3.75	218	96	79	0	7	5	0
	CINCINNATI	38	28	46	19	33	6	0.48	-0.09	0.35	6.06	117	3.29	162	93	73	0	6	6	0
	CLEVELAND	33	24	41	16	28	4	0.62	0.19	0.25	6.28	134	3.85	238	99	83	0	7	6	0
	COLUMBUS	35	25	45	17	30	4	0.32	-0.15	0.16	4.44	97	2.31	134	91	74	0	7	3	0
	DAYTON	34	24	43	15	29	4	0.47	0.02	0.31	5.51	119	3.36	199	92	75	0	6	3	0
	MANSFIELD	31	20	41	13	26	2	0.24	-0.17	0.15	5.26	113	2.94	185	96	79	0	7	3	0

Based on 1961-90 normals

Weather Data for the Week Ending January 24, 1998

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION						RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																TEMP, °F		PRECIP.	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL, IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
	TOLEDO	31	26	33	23	29	7	0.30	-0.05	0.16	4.90	113	2.82	200	91	72	0	7	4	0
	YOUNGSTOWN	32	21	40	8	26	3	0.75	0.30	0.43	7.17	155	4.47	263	91	73	0	7	6	0
OK	OKLAHOMA CITY	50	28	61	23	39	3	0.00	-0.25	0.00	4.41	196	2.40	282	88	50	0	6	0	0
	TULSA	46	26	54	20	36	1	0.00	-0.33	0.00	7.05	210	2.76	232	88	51	0	6	0	0
OR	ASTORIA	51	43	56	37	47	5	4.65	2.44	0.89	22.85	124	14.42	182	94	82	0	0	7	6
	BURNS	39	28	45	22	34	10	0.42	0.20	0.27	2.83	147	1.93	247	95	71	0	7	4	0
	EUGENE	51	42	56	37	46	5	2.04	0.31	0.63	9.44	63	7.22	115	88	71	0	0	6	2
	MEDFORD	50	36	59	33	43	4	0.63	0.05	0.27	5.33	97	3.98	184	98	74	0	0	5	0
	PENDLETON	52	35	58	30	44	10	0.34	0.01	0.25	2.88	102	1.83	153	90	55	0	2	3	0
	PORTLAND	50	42	53	38	46	6	1.83	0.67	0.68	9.35	90	6.33	148	93	77	0	0	7	1
	SALEM	51	43	55	37	47	7	2.83	1.54	1.23	11.05	96	7.89	168	86	66	0	0	7	1
PA	ALLENTOWN	38	28	46	23	33	6	1.43	0.73	1.18	5.70	96	3.34	135	93	69	0	7	5	1
	ERIE	33	23	39	16	28	3	0.69	0.23	0.21	9.69	180	4.82	272	94	77	0	6	7	0
	MIDDLETOWN	39	29	45	22	34	6	1.29	0.66	1.10	5.96	110	3.95	183	93	57	0	7	4	1
	PHILADELPHIA	42	32	50	27	37	7	2.46	1.75	2.33	6.91	117	3.81	151	89	65	0	3	3	1
	PITTSBURGH	34	25	43	19	30	4	0.55	-0.01	0.34	4.89	100	3.61	180	90	67	0	7	4	0
	SCRANTON	33	25	37	20	29	5	0.57	0.08	0.36	5.15	125	2.90	180	98	82	0	7	5	0
	WILLIAMSPORT	35	27	38	21	31	6	0.68	0.13	0.67	3.09	62	1.64	84	92	67	0	7	2	1
RI	PROVIDENCE	40	28	52	22	34	6	3.34	2.49	1.92	9.22	124	6.39	210	85	67	0	6	2	2
SC	BEAUFORT	59	42	68	34	50	2	4.01	3.17	2.15	9.51	156	5.58	192	97	66	0	0	3	2
	CHARLESTON	59	41	66	32	50	2	4.06	3.29	3.27	11.22	193	6.04	226	98	59	0	1	3	2
	COLUMBIA	55	36	60	28	46	2	1.79	0.77	0.99	9.32	133	4.93	144	96	56	0	3	4	2
	GREENVILLE	48	34	55	28	41	1	1.32	0.40	0.79	9.44	129	5.20	164	94	56	0	3	6	1
SD	ABERDEEN	21	3	24	-9	12	2	0.24	0.16	0.13	0.74	107	0.56	200	90	80	0	7	6	0
	HURON	23	11	25	-7	17	4	0.15	0.07	0.09	0.43	57	0.21	75	88	75	0	7	2	0
	RAPID CITY	34	16	45	12	25	3	0.07	-0.01	0.07	0.24	31	0.16	57	94	76	0	7	1	0
	SIOUX FALLS	23	13	25	-2	18	4	0.29	0.18	0.22	0.72	65	0.47	118	92	80	0	7	4	0
TN	BRISTOL	45	32	50	22	38	5	0.89	0.17	0.45	5.15	88	2.97	119	94	68	0	4	5	0
	CHATTANOOGA	46	34	50	27	40	3	0.97	-0.12	0.45	10.43	116	7.13	187	95	68	0	3	5	0
	KNOXVILLE	45	34	50	28	40	4	1.17	0.25	0.43	5.74	73	3.38	104	92	66	0	3	5	0
	MEMPHIS	44	34	50	29	39	0	0.65	-0.13	0.44	10.83	125	6.31	215	93	63	0	3	3	0
	NASHVILLE	44	32	49	23	38	2	0.76	-0.01	0.54	5.74	77	3.54	126	90	67	0	3	4	1
TX	ABILENE	59	34	72	25	46	4	0.33	0.09	0.33	3.63	202	0.47	60	84	47	0	4	1	0
	AMARILLO	54	26	61	20	40	5	0.00	-0.11	0.00	2.79	353	0.67	176	79	29	0	6	0	0
	AUSTIN	64	43	76	37	53	5	0.01	-0.38	0.01	5.87	185	1.61	125	88	56	0	0	1	0
	BEAUMONT	64	48	73	37	56	5	4.86	3.80	4.14	15.25	178	8.63	229	96	69	0	0	2	2
	BROWNSVILLE	74	53	80	43	64	4	0.00	-0.36	0.00	0.82	33	0.37	31	97	65	0	0	0	0
	CORPUS CHRISTI	70	48	78	39	59	4	0.64	0.23	0.63	1.26	50	1.06	83	93	62	0	0	2	1
	DEL RIO	69	40	79	34	54	4	0.00	-0.14	0.00	0.63	61	0.04	10	85	38	0	0	0	0
	EL PASO	63	35	70	28	49	6	0.00	-0.08	0.00	1.45	161	0.04	13	67	28	0	3	0	0
	FORT WORTH	56	35	66	28	45	2	0.04	-0.37	0.04	11.89	365	4.96	354	93	54	0	2	1	0
	GALVESTON	63	52	72	47	58	5	0.96	0.25	0.90	10.45	171	5.56	215	93	77	0	0	3	1
	HOUSTON	67	45	76	34	56	6	0.27	-0.47	0.25	9.54	158	4.13	160	93	54	0	0	2	0
	LUBBOCK	56	29	64	21	43	4	0.00	-0.08	0.00	1.75	213	0.00	0	74	30	0	5	0	0
	MIDLAND	62	33	73	22	47	5	0.00	-0.08	0.00	1.36	160	0.01	4	75	27	0	4	0	0
	SAN ANGELO	62	31	73	22	47	3	0.05	-0.14	0.05	1.48	108	0.09	15	89	38	0	4	1	0
	SAN ANTONIO	65	43	76	35	54	5	0.01	-0.39	0.01	4.73	169	1.17	90	90	49	0	0	1	0
	VICTORIA	68	44	77	35	56	4	0.08	-0.42	0.04	2.37	64	0.74	44	95	59	0	0	2	0
	WACO	59	37	69	30	48	3	0.05	-0.32	0.05	15.81	510	5.99	483	95	59	0	2	1	0
	WICHITA FALLS	53	32	67	25	42	2	0.06	-0.17	0.04	5.40	265	1.28	168	88	49	0	4	2	0
UT	SALT LAKE CITY	47	31	54	26	39	11	0.26	0.01	0.26	2.11	92	1.48	168	82	45	0	5	1	0
VT	BURLINGTON	27	10	32	-9	19	3	0.56	0.17	0.47	5.45	141	3.81	265	88	71	0	7	4	0
VA	LYNCHBURG	42	29	45	20	35	1	1.63	1.00	0.68	7.03	129	4.31	195	95	65	0	5	5	1
	NORFOLK	47	36	61	31	41	3	1.13	0.28	0.87	6.51	106	3.85	132	87	58	0	3	4	1
	RICHMOND	45	32	56	24	38	3	2.17	1.45	1.67	6.72	116	4.35	172	93	61	0	4	4	1
	ROANOKE	42	31	46	22	37	3	1.39	0.81	0.55	7.53	152	5.16	258	88	62	0	2	5	1
	WASH/DULLES	41	28	46	19	35	4	1.75	1.14	1.46	5.14	96	3.22	152	92	63	0	4	4	1
WA	HANFORD	45	33	57	26	39	--	0.22	0.03	0.12	1.48	92	1.17	202	86	68	0	4	4	0
	OLYMPIA	48	38	52	31	43	5	2.95	1.17	0.85	16.20	112	10.06	159	99	86	0	1	7	2
	QUILLAYUTE	49	42	55	38	46	6	8.56	5.37	3.99	30.19	113	14.69	130	96	87	0	0	7	6
	SEATTLE-TACOMA	50	42	57	37	46	5	2.12	0.93	0.96	8.63	85	5.99	140	91	70	0	0	7	1
	SPOKANE	39	31	42	28	35	8	0.86	0.43	0.49	2.80	70	1.79	113	99	84	0	5	4	0
	YAKIMA	39	26	46	20	32	2	0.18	-0.10	0.07	2.52	105	2.33	238	96	78	0	6	6	0
WV	BECKLEY	37	26	41	21	32	3	0.65	0.00	0.22	4.66	84	2.46	108	94	72	0	5	4	0
	CHARLESTON	40	29	49	22	35	3	0.25	-0.38	0.09	3.71	66	2.15	95	95	70	0	5	4	0
	ELKINS	38	25	46	16	31	5	0.77	0.09	0.38	5.96	101	3.44	142	95	68	0	6	4	0
	HUNTINGTON	40	29	49	19	35	3	0.52	-0.10	0.31	5.44	98	3.89	175	91	69	0	5	3	0
WI	EAU CLAIRE	27	11	33	2	19	9	0.22	0.00	0.11	1.49	79	1.25	158	92	78	0	7	3	0
	GREEN BAY	27	15	29	-3	21	7	0.41	0.16	0.19	2.38	97	1.78	193	92	75	0	7	3	0
	MADISON	27	16	30	8	23	7	0.25	0.03	0.10	2.92	108	1.67	192	92	76	0	7	4	0
	MILWAUKEE	30	22	32	14	26	7	0.56	0.23	0.56	4.06	113	2.76	214	94	75	0	7	1	1
WY	CASPER	36	16	50	3	26	3	0.23	0.12	0.22	0.89	82	0.40	93	82	56	0	7	2	0
	CHEYENNE	40	20	51	12	30	3	0.00	-0.08	0.00	0.61	87	0.07	24	70	33	0	7	0	0
	LANDER	34	14	44	5	24	4	0.00	-0.11	0.00	1.95	207	0.10	26	83	48	0	7	0	0
	SHERIDAN	32	11	46	6	22	1	0.07	-0.10	0.06	0.96	74	0.33	58	89	69	0	7	2	0

NOTE: These data are preliminary and subject to change. In the past, precipitation totals from a number of stations have been incomplete.

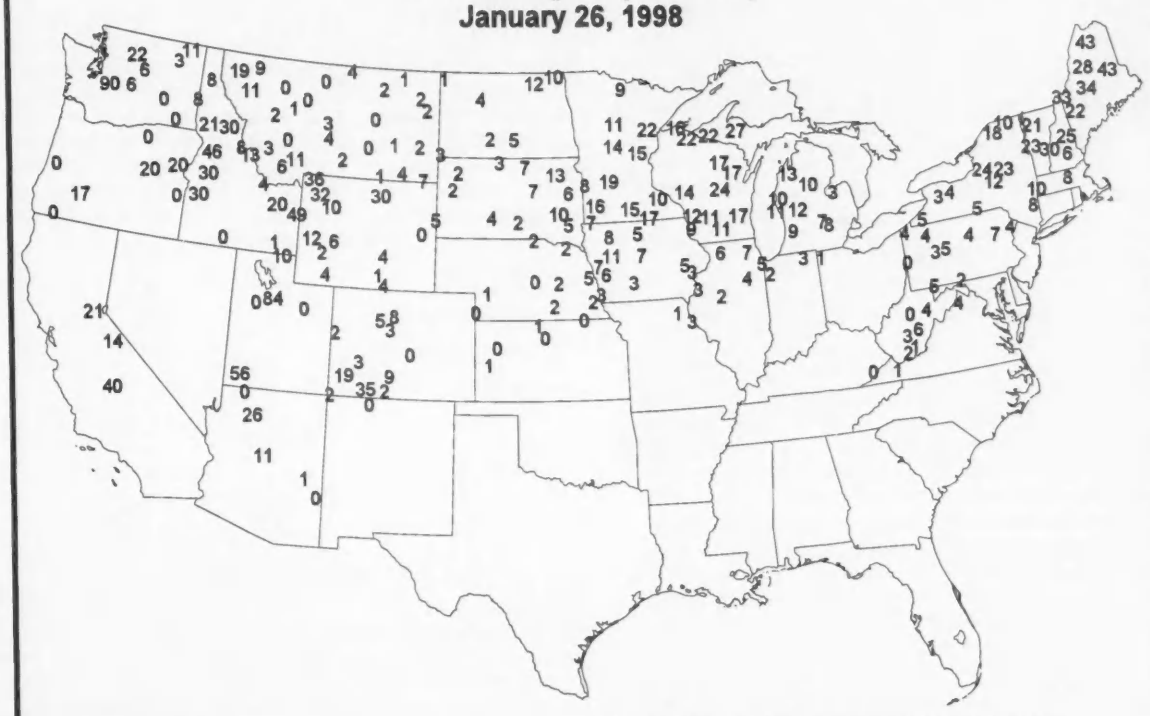
National Agricultural Summary

January 19 - 25, 1998

HIGHLIGHTS

Mild temperatures prevailed nationwide as heavy rains continued to fall in the Southeast and along the Pacific Coast. Parts of Louisiana and North Carolina have already received record January precipitation. In Florida, early and mid-season orange harvests were very active for processing despite wet, cool weather in the citrus areas. More snow and ice in New England hampered agricultural activities and stressed livestock, especially dairy herds. Farmers are concerned that storms have damaged maple and fruit trees but will not know the extent of the damage until spring. Many Corn Belt States also received snow. Light snow fell in Montana, but the rest of the northern and central Plains remained generally dry as it has for over 3 months. Mild weather, along with recent rains, in the southern Plains aided growth and development of the winter wheat crop and left most fields in good condition at week's end. In California, field activities resumed on drier soils. However, because of earlier rains, most areas were still too wet for heavy equipment. Cotton fields were prepared for planting where conditions permitted. Wet weather in orchards and vineyards hampered pruning, vine tying, and dormant spraying.

Snow Depth (Inches)
January 26, 1998



Experimental product based on preliminary data
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY

The NWS co-operative observer network is the principal source of the snow depth reports.

International Weather and Crop Summary

January 18 - 24, 1998

HIGHLIGHTS

FSU-WESTERN: Colder weather spread westward over winter grain areas in Russia, Ukraine, Belarus, and the Baltics.

EUROPE: Cooler weather dropped temperatures to more seasonable levels in western and northern winter grain areas.

NORTHWESTERN AFRICA: Light showers favored winter grains in eastern Algeria and Tunisia, while mostly dry weather limited moisture for crop development in southern Morocco and western and central Algeria.

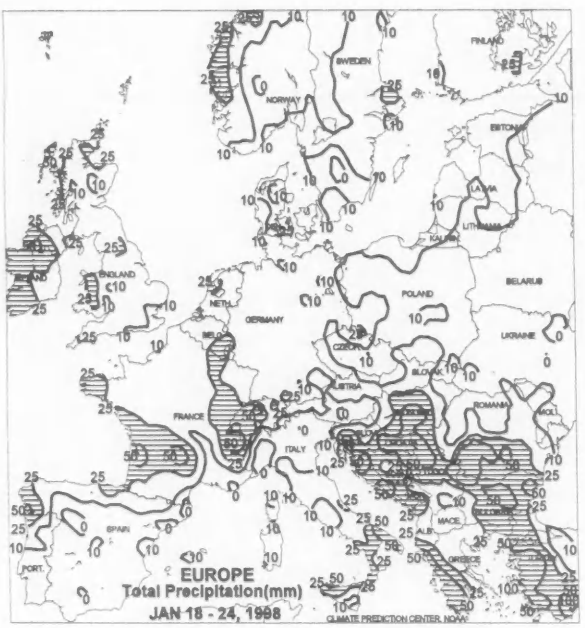
AUSTRALIA: Warm, dry weather dominated summer crop areas across the east.

SOUTH AFRICA: Scattered showers benefited vegetative to reproductive corn, although a few dry pockets lingered in the west.

SOUTHEAST ASIA: Increased rainfall brought some drought relief to the eastern Philippines, but drought worsened in the north. Widespread showers covered Java, aiding main-season rice.

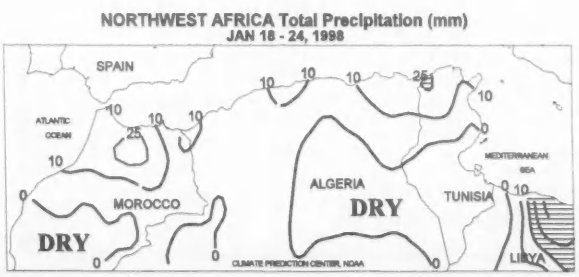
CHINA: Cold weather kept winter wheat dormant across the North China Plain.

SOUTH AMERICA: Ideal summer crop weather continued in Argentina. Rain eased dryness in Mato Grosso do Sul, Brazil, but more is needed.



EUROPE

Widespread light to moderate rain (10-25 mm, with local amounts in excess of 25 mm) fell early in the week in western and northern winter grain areas. Stormy weather prevailed in southeastern Europe, with moderate rain turning to locally heavy snow by mid-week. Precipitation amounts in Hungary, Romania, Croatia, former Yugoslavia, and Bulgaria generally ranged from 25 to 50 mm or more. The precipitation in Hungary was especially welcomed in helping to boost low soil moisture reserves. A cooling trend spread westward over Europe during the week, dropping temperatures to more seasonable levels in the west and north. At week's end, minimum temperatures ranged from -2 to -7 degrees C in England, France, the Benelux countries, and Germany. In eastern Europe, minimum temperatures ranged from -5 to -15 degrees C. A fresh snow cover in southeastern Europe provided protection from extreme cold.

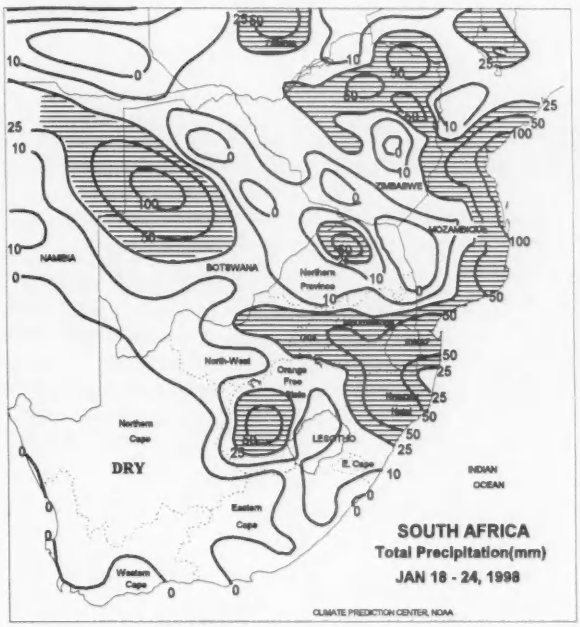


NORTHWESTERN AFRICA

Winter grains were in the vegetative stage over most of the region. Light precipitation (10-25 mm) favored winter grains in northern Morocco, eastern Algeria, and Tunisia. Mostly dry weather prevailed over crop areas in southern Morocco and western and central Algeria. Continued dryness in western and central Algeria since December has depleted soil moisture reserves, and rain is needed to alleviate crop stress.

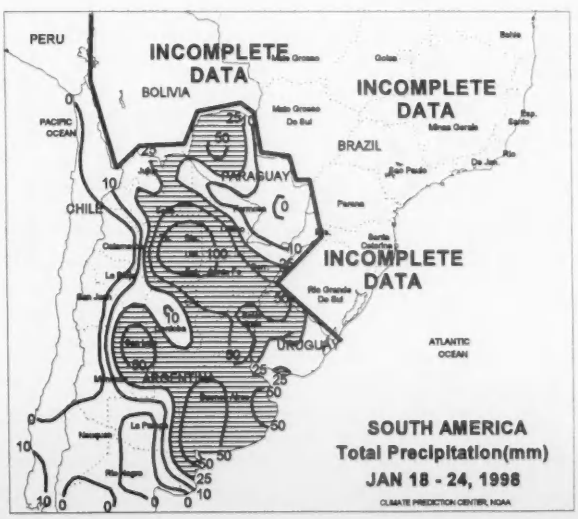
FSU-WESTERN

Mild conditions early in the week were followed by much colder weather as the week progressed. Lowest temperatures (-15 to -25 degrees C) occurred in central and southern Russia and the extreme eastern tip of Ukraine. An adequate snow cover in these areas provided protection from potential widespread damage. In areas that lacked a protective snow cover (the remainder of Ukraine, the Baltics, and Belarus), minimum temperatures ranged from -2 to -13 degrees C and did not fall low enough to threaten winter grains. Light precipitation (3-10 mm) prevailed over most winter grain areas. Greatest amounts of precipitation (10-17 mm) fell in the Baltics, mostly in the form of rain.



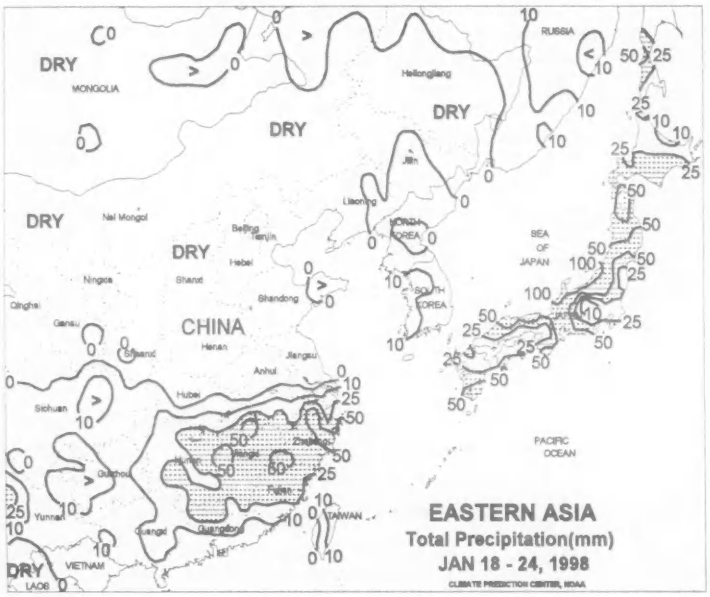
SOUTH AFRICA

Summer storms returned to much of the corn belt, benefiting vegetative to reproductive crops. Rainfall was heaviest in eastern crop areas, totaling 25 to 50 mm or more from the northeastern corn belt (eastern North West to Mpumalanga) southward to the sugarcane fields of Kwazulu-Natal. Pockets of lighter rain (10 mm or less) persisted in western crop areas, with highs reaching the mid 30's C. The region's corn typically advances through reproduction well into February, and could possibly continue into March due to late plantings. Low subsoil moisture reserves in the west and south would limit yield potential if dry spells continue or recur. Elsewhere in southern Africa, a tropical cyclone brought locally heavy rain (50-100 mm or more) to the Mozambique coast as it traveled southward past Madagascar. Moderate to heavy rain (25-50 mm or more) also continued in northern Zimbabwe, benefiting summer grains and further increasing moisture reserves.



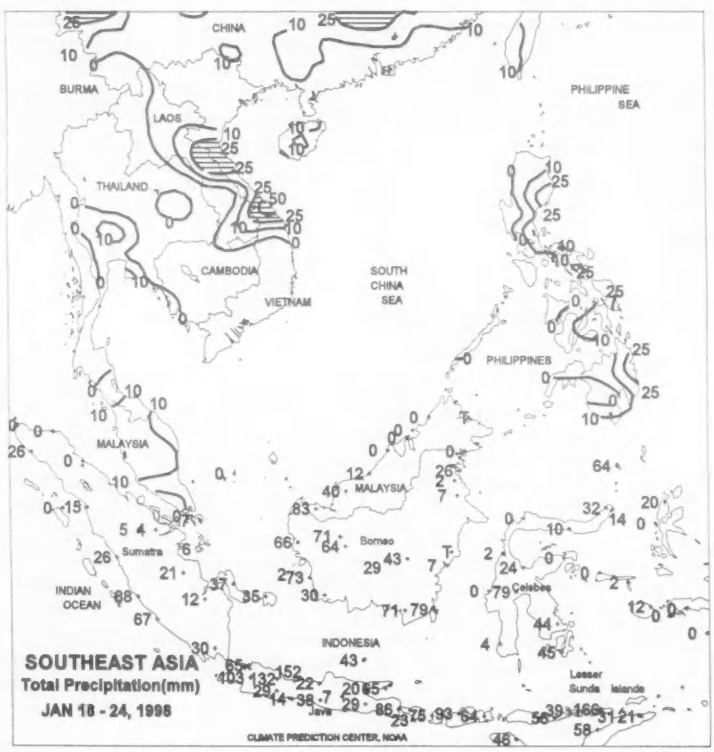
SOUTH AMERICA

In southern Brazil, incomplete reports indicated that moderate showers eased dryness in Mato Grosso do Sul, but more rain is still needed. Elsewhere in southern Brazil, light to moderate showers maintained adequate soil moisture supplies for vegetative soybeans. In Argentina, rain (30-70 mm) along with cool weather (temperatures 1-3 degrees C below normal) provided ideal conditions for vegetative soybeans and reproductive corn. The rain, however, hampered late winter wheat harvesting. Rain (10-60 mm) benefited cotton in northern Argentina. In southern Paraguay, dry, warm weather (temperatures averaged 1-3 degrees C above normal) reduced soil moisture for soybeans.



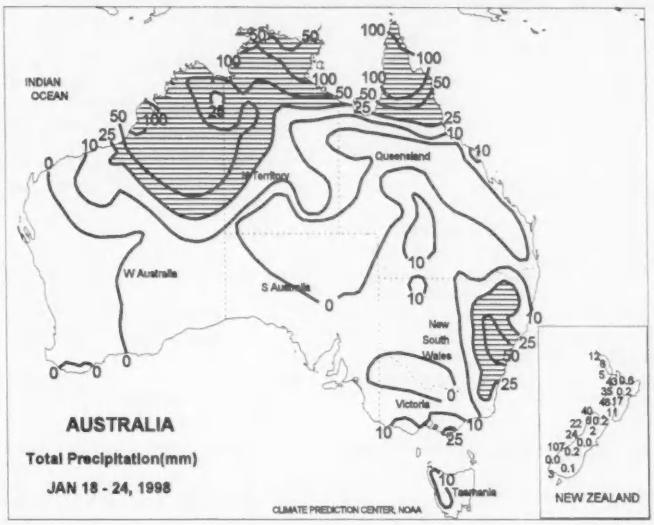
CHINA

Cold weather kept winter wheat dormant across the North China Plain. Temperatures averaged 3 to 4 C degrees C below normal, with lows ranging from -12 to -15 degrees C. These temperatures are above the threshold of damaging winter wheat. Precipitation was confined to the lower Yangtze Valley and southern China, maintaining abundant moisture for vegetative winter grains and oilseeds.



SOUTHEAST ASIA

Widespread showers (30-130 mm) covered Java, aiding main-season rice. Showers (10-35 mm) increased across the eastern Philippines, easing dryness, but much more rain is needed. Drought continued to worsen in the north. Mostly dry weather (less than 15 mm) eased wetness across peninsular Malaysia.



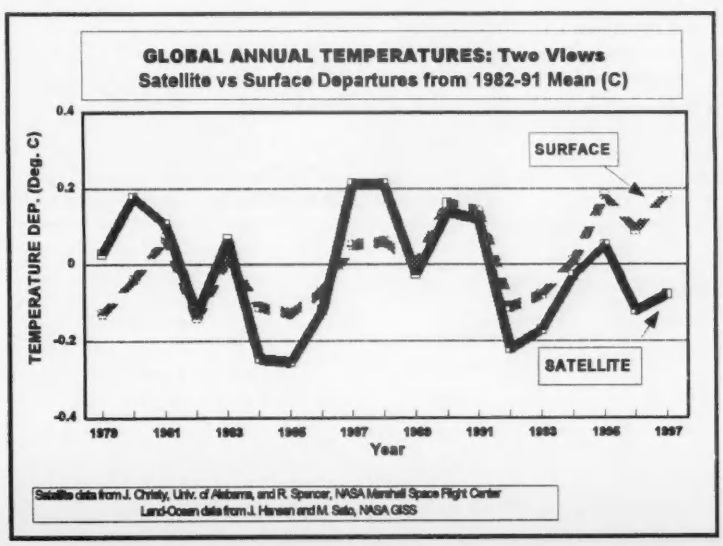
AUSTRALIA

Rainfall tapered off in eastern Australia's main summer crop areas as unseasonable warmth (temperatures averaging 2-3 degrees C above normal, with highs near 40 C) raised crop moisture demands. The driest area continued to be centered over Queensland's eastern cotton and sorghum areas where little, if any, rain has fallen since late December. Moderate rain (10-25 mm or more) covered the Darling Downs area and a few western locations in Queensland and New South Wales. Scattered, light showers (less than 25 mm) were also recorded in sugarcane areas along the northeastern coast, including sections of the north that recently flooded. The welcomed, drier weather was due to a northward shift in the intense tropical activity that has plagued the region in recent weeks. Dry weather also covered agricultural areas throughout the west as light showers (5 mm or less) were scattered across the southeast. Temperatures averaged 1 to 2 degrees C below normal in these areas, but summer heat (highs in the mid to upper 30's C) was still prevalent. In New Zealand, moderate showers (25-50 mm) boosted soil moisture reserves in central pasture lands of North Island, but showers were generally light elsewhere in the country.

Global Temperature Trends

The year 1997 was the warmest on record, supplying more evidence that global warming has arrived. The year was also cooler than normal, with recent data showing no evidence of global warming. The data could support either argument.

It all depends on what data you examine. Temperature indices based on land and ocean temperatures monitored at NASA's Goddard Institute for Space Studies (GISS) show that 1997 averaged 0.19°C (0.34°F) above the 1982-91 mean. This makes 1997 the warmest year on record. A separate global temperature index developed by NOAA's National Climatic Data Center also places 1997 as the warmest year on record. The trend based on the GISS data since 1979 shows a rise of +0.11°C (0.20°F) per decade. However, lower tropospheric temperatures measured by the NOAA satellites' Microwave Sounding Unit indicate that 1997 temperatures were 0.08°C (0.14°F) lower than the 1982-91 mean. The satellite trend since 1979 is actually declining at the rate of -0.05°C (-0.09°F) per decade.



The discrepancy between the surface and satellite measurements of climate is the subject of spirited debate among the research community. Perhaps both time series are correct; they are just measuring different things. The surface record combines thermometer readings over land with sea surface temperatures, while the satellite calculates the mean global temperature from the surface to 20,000 feet up.

The differences among climate measurements mean that research scientists will need to carefully examine a number of data sources before confirming the extent of the human impact on climate.

--Douglas Le Comte

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(Continued from front cover)

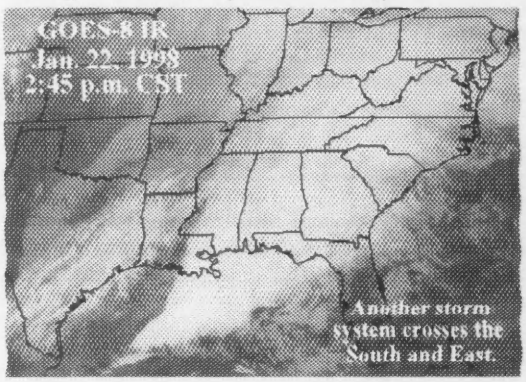
On Sunday, **Salt Lake City, UT** notched a second consecutive daily-record high (56 and 54°F). Daily records were also reported in **Bakersfield, CA** (75°F) and **Boise, ID** (57°F). Meanwhile, a moisture-laden storm reached the **West Coast**. Unsettled weather continued across the **Northwest** for much of the week, followed by another strong system at week's end. On Saturday morning, wind gusts along the **Oregon Coast** reached 79 mph on **Cape Blanco** and 51 mph in **Florence**. Although the storms produced less precipitation than last week's systems, they boosted month-to-date rainfall (through January 25) to 15.32 inches in **Astoria, OR** (187 percent [%] of normal), 11.24 inches (232%) in **Eureka, CA**, and 8.80 inches (181%) in **Salem, OR**.

An early-week storm also affected the **East Coast**, dropping light rain in many areas but dumping heavy snow on **eastern Maine**. By Tuesday, storm-total snowfall reached 10.5 inches in **Ellsworth** and 7.0 inches in **Bangor**. Two days earlier, the season's first measurable snow (0.5 inch) had fallen in **New York's Central Park**, only 11 days before their latest first snow on record, set on January 29, 1973.

The first **West Coast** storm reached the **Southeast** at midweek, depositing a daily-record rainfall (2.59 inches) in **Jackson, MS**. By Friday, daily-rainfall records were set up and down the **Eastern Seaboard**, from **Melbourne, FL** (2.97 inches) to **Bridgeport, CT** (2.48 inches), and at nearly a dozen locations in between. In **South Carolina, Charleston's** total of 3.27 inches on Friday approached their single-day record for the month (3.90 inches on January 12, 1993). During the storm's passage, January precipitation records were broken in **Baton Rouge, LA** (14.00 inches), **Asheville, NC** (8.20 inches), and **Burlington, VT** (5.08 inches). In **Louisiana, New Orleans'** month-to-date total of 18.04 inches was approaching their January record of 19.25 inches, set in 1991.

Farther north, snow and ice affected the **Northeast**. **Boston, MA** netted 2.19 inches of liquid in 24 hours on January 23-24, including 2.2 inches of snow and sleet. In **northern New England**, snowfall totaled 11 inches in **Bethel, VT**, 10 inches in **Gorham, NH**, and 7 inches in **Gray, ME**. Nearly a foot (11.8 inches) fell in **Peru, NY**. The storm boosted month-to-date snowfall to 24.1 inches in **Burlington, VT** and 33.3 inches in **Caribou, ME**. Meanwhile, persistent light snow continued across the **upper Midwest** and **Great Lakes States**. Through January 25, month-to-date snowfall reached 24.9 inches in **Eau Claire, WI**, 23.1 inches in **Milwaukee, WI**, 19.0 inches in **Grand Rapids, MI**, and 11.7 inches in **Sioux Falls, SD**.

Mostly dry, mild weather prevailed in **Alaska** (temperature departures ranged from -5 to +8°F) and **Hawaii** (up to +3°F). Daily-record highs were set on **Annette Island, AK** (50°F on Saturday) and in **Hilo, HI** (86°F on Thursday).



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